

# **BALKAN ECONOMIC REVIEW**



**VOLUME 3**

*Online scientific journal in the field of economic and social sciences*

Editor:  
Balkan Institute of Science and Innovation – BISI,  
Université Côte d’Azur, France

Editor in Chief:  
Srdjan REDZEPAGIC

ISSN: 2726-5498

Year: 2020

## EDITORIAL BOARD

Alfirevic Niksa, University of Split, Split, Croatia  
Arouri Mohamed, University Cote d'Azur, Nice, France  
Bacao Pedro Miguel Avelino, University of Coimbra, Coimbra, Portugal  
Balashova Svetlana, RUDN University, Moscow, Russia  
Bazin Damien, University Cote d'Azur, Nice, France  
Ben Youssef Adel, University Cote d'Azur, Nice, France  
Beraha Isidora, Institute of Economic Sciences, Belgrade, Serbia  
Bezic Heri, University of Rijeka, Rijeka, Croatia  
Bianchi Massimo, University of Bologna, Bologna, Italy  
Boubaker Sabri, Normandie Business School, Paris, France  
Casian Angela, Academy of Economic Studies of Moldova, Chisinau, Moldova  
Carabet Maria, Comrat State University, Comrat, Moldova  
Chtourou Nouri, University of Sfax, Sfax, Tunisia  
Djukic Malisa, Belgrade Banking Academy, Belgrade, Serbia  
Djukic Mihajlo, Institute of Economic Sciences, Belgrade, Serbia  
Djuricin Sonja, Institute of Economic Sciences, Belgrade, Serbia  
Djurovic Gordana, University of Montenegro, Podgorica, Montenegro  
Drezgic Sasa, University of Rijeka, Rijeka, Croatia  
Eric Dejan, Belgrade Banking Academy, Belgrade, Serbia  
Farahmand Shekoofeh, University of Isfahan, Isfahan, Iran  
Feki Rochdi, University of Sfax, Sfax, Tunisia  
Figus Alessandro, University of CASSINO and Southern Lazio, Cassino, Italy  
Gabsi Foued Badr, University of Sfax, Sfax, Tunisia  
Guerraoui Driss, University of Dakhla, Rabat, Morocco  
Hashi Iraj, Staffordshire University, Staffordshire, United Kingdom  
Host Alen, University of Rijeka, Rijeka, Croatia  
Jaksic Miomir, University of Belgrade, Belgrade, Serbia  
Jaupi Fatma, University of Tirana, Tirana, Albania  
Jovovic Milorad, University of Montenegro, Podgorica, Montenegro  
Levi-Jaksic Maja, University of Belgrade, Belgrade, Serbia  
Levitskaia Alla, Comrat State University, Comrat, Moldova  
Memaj Fatmir, University of Tirana, Tirana, Albania  
Mirdala Rajmond, Technical university of Kosice, Kosice, Slovakia  
Mitrovic Djordje, University of Belgrade, Belgrade, Serbia  
Mulic Andrei, Moldova State University, Chisinau, Moldova  
Nenovsky Nikolay, University of Picardie Jules Verne, Amiens, France  
Ozer Mustafa, Anadolu University, Eskisehir, Turkey  
Palestrini Antonio, University Politecnica delle Marche, Ancona, Italy  
Portugal Duarte Antonio, University of Coimbra, Coimbra, Portugal  
Radovic Milivoje, University of Montenegro, Podgorica, Montenegro  
Roberts Nancy, Arizona State University, United States of America  
Richet Xavier, University Sorbonne Nouvelle, Paris, France

Sameti Majid, University of Isfahan, Isfahan, Iran  
Simoes Marta, University of Coimbra, Coimbra, Portugal  
Soltes Michal, Technical university of Kosice, Kosice, Slovakia  
Sousa Andrade Joao, University of Coimbra, Coimbra, Portugal  
Stosic Ivan, Institute of Economic Sciences, Belgrade, Serbia  
Tajnikar Maks, University of Ljubljana, Ljubljana, Slovenia  
Todorici Liudmila, Comrat State University, Comrat, Moldova  
Tomljanovic Marko, University of Rijeka, Rijeka, Croatia  
Trifunovic Dejan, University of Belgrade, Belgrade, Serbia  
Urbancikova Natasa, Technical university of Kosice, Kosice, Slovakia  
Voskanyan Mariam, Russian-Armenian University, Yerevan, Armenia  
Vostricov Denis, Academy of Economic Studies of Moldova, Chisinau, Moldova  
Vukovic Darko, Higher School of Economics, Saint Petersburg, Russia  
Wetzinger Johannes, University of Applied Sciences BFI Vienna, Vienna, Austria  
Yeranosyan Vanine, Armenian State University of Economics, Yerevan, Armenia  
Zafiroski Jovan, Ss.Cyril and Methodius University, Skopje, North Macedonia  
Zamani Zahra, University of Isfahan, Isfahan, Iran

## Content

<b>QUALITY MANAGEMENT IN SERVICE ACTIVITIES</b> Irena Brajević, Ivana Domazet, Darko Marjanović.....	6
<b>DIGITAL TRANSFORMATION IN THE HEALTHCARE INDUSTRY IN CONDITIONS OF COVID-19 PANDEMIC: THE FUTURE OF TELEMEDICINE</b> Dejan Mandić .....	20
<b>CURRENT IMPACT AND FUTURE PROSPECTS OF ICT AS A SOURCE OF ECONOMIC GROWTH IN THE INFORMATION AGE</b> Blerim Morina, Albana Bashota.....	34
<b>TRENDS AND CHALLENGES OF FOREIGN DIRECT INVESTMENT IN THE TIME COVID-19</b> Zdravko Tomić .....	52
<b>THE PERCEPTION OF FORMAL AND INFORMAL INSTITUTIONS BY ALBANIAN ENTREPRENEURS AND ITS EFFECTS ON BUSINESS STRATEGY. THE ENTREPRENEURIAL VIEW IN A TRANSFORMING SOCIETY</b> Rainer Busch, Ermira Qosja, Christian May.....	59

# QUALITY MANAGEMENT IN SERVICE ACTIVITIES

Irena Brajević<sup>1</sup>  
Ivana Domazet<sup>2</sup>  
Darko Marjanović<sup>3</sup>

**Summary:** The function of quality is gaining in importance and quality is becoming a basic factor in the survival and development of the company. Due to the need to ensure that their organization, product or service is of consistent quality, companies introduce QM (Quality Management) into their business. Quality on the one hand is a set of properties, and on the other hand, it is about meeting the needs and expectations of customers. Quality management is an ongoing process, which is evolving and changing with the aim of ensuring the projected quality of the product or service is provided as successfully and objectively as possible. In doing so, companies use various tools and methods that enable the identification of key factors that have a decisive influence on ensuring the required quality of a product and/or service. The main goal of this paper is to present the properties, characteristics and ways of measuring the quality of services as well as how the companies engaged in services industry manage quality. Since the end of the 20<sup>th</sup> century, more and more attention is paid to the quality of services, and the main conclusion from the management point of view is that it is necessary to acquire new and retain existing customers, where the quality of products and services is crucial in this process.

**Key words:** Quality, Services, QM (quality management), standardization, activity

**JEL classification:** O32

## Introduction

Quality is defined as a performance indicator of the use value of a product or service that meets predefined needs in a certain area and at a certain time, which confirms that product / service in market exchange as a good or a service. It is evident that the term quality is conceived and interpreted differently. The understanding of the term is additionally influenced by the following three parameters (Todorović, 2009): (a) standpoint effect, (b) substitute effect and (c) transformation effect. According to the standpoint effect, quality means the angle from which we look at quality, and we

---

<sup>1</sup>MA, The Eighth Belgrade High School, Belgrade, Serbia, e-mail: irena.brajevic@gmail.com

<sup>2</sup>PhD, Principal Research Fellow, Institute of Economic Sciences, Belgrade, Serbia, e-mail: ivana.domazet@ien.bg.ac.rs

<sup>3</sup>PhD, Research Associate, Institute of Economic Sciences, Belgrade, Serbia, e-mail: darko.marjanovic@ien.bg.ac.rs

can perceive it from the standpoint of consumer, producer, society, market and product. It is very important for the population as potential users or as users of products and services to see in them the opportunity to meet their expectations, that is to satisfy their needs and desires. Quality from the consumer's point of view represents the degree of use value of a product or service with which he satisfies a certain need. Quality from the manufacturer's point of view refers to the degree of product success. It can be conceptual, constructional and quality of workmanship. Quality from the angle of the market implies the degree to which the product has met the needs of the customer in relation to the competing product. Quality from the point of view of society is the degree to which products and services in a society are confirmed as goods. According to the substitute effect, quality means that the higher the level of development of a country, the higher the quality of products and services. Quality requirements in developed countries are much higher than in developing countries. According to the transformation effect, quality is affected by a number of factors and represents a variable category. Some products undergo several transformations until they reach a certain level of quality to meet the needs and desires of customers.

Given the growing importance of services and their large share in national economies, in modern business, quite logically, the quality of services is a priority for organizations that want to differentiate their services in a highly competitive environment (Domazet & Marjanović, 2018). In general, there are two trends in services in highly developed countries, services are becoming the dominant sector of the economy, and at the same time the products offered are increasingly a combination of products and services in response to a greater and more objective understanding of customer needs.

## **1. Literature review**

At the beginning of the 20th century, with the onset of management, there was a division of business functions. Planning is separated from the executive function, and a special control function is established. Controllers were crucial to quality assurance. The beginnings of quality theory are related to the first book published by G.S. Radford. Further development of quality theory is linked to experts from Western Electric Company and Bell Telephone Laboratories – Walter A. Shewhart (working to improve industrial quality), George Edwards (first president of the American Society for Quality Control (ASQ), dealing with quality assurance), Harold F. Dodge (engaged in statistical quality control) and Edwards Deming (management consultant and statistician, scientific contribution to the theory of quality presented in his work "New Economics for Industry, Government and Education").

The European Union creates a single market through a system of laws that applies in all member states, which guarantees the free flow of people, goods, services and capital (WordPress). According to the opinion expressed by Juran (1970), quality is a set of activities on the basis of which the suitability of a product for use is achieved. According to Papić (2011), the term “quality” can be used when explaining reliability in use, how long a product can be used, certain product characteristics, taste or satisfaction that is felt when using a service or product. Crosby (1996) understands

quality as "compliance with requirements", while Mitrović (1996) believes that product quality is a set of characteristics that achieve the quality of service, with the aim of achieving quality of work and life. Quality of service is a set of essential properties and characteristics of a certain service that allows to meet the identified and inherent needs (Todorović, 2009). Deming (1993) starts from the point of view that quality should focus its aspiration on current and future needs of users. Quality is discussed in all areas of human activity. That is why it is not surprising that Crosby (2003) is of the opinion that quality has a cult status, because it is, indisputably, generally accepted.

A service is any activity or benefit that one party offers to another, and that is essentially intangible and does not result in ownership of anything (Hanić et al, 2011). Oliva and Kallenberg (2003) believe that services are economic activities, the outcome of which are primarily intangible products, such as: finance, education, publishing, entertainment, etc. The service is the result of the activities of mutual contact between the supplier and the customer, as well as internal activities with the supplier, in order to meet the needs of customers (Domazet & Lazić, 2017). A service is any work or act that one party can offer to another, but that is completely intangible and does not result in possession of something (Macura, 2009).

## **2. Quality management system**

Standards in the field of quality assurance systems (ISO 9000: 1987) very quickly, in addition to the European market for which they were intended, found their application in other parts of the world. Shortly after the first series of standards, in 1993 a label was developed to mark the quality of CE products. Subsequently, in 1996, environmental standards were developed. As the largest and most important, the International Organization for Standardization (ISO) consists of 162 member countries based in Geneva. Its role is to prepare and publish international quality standards. ISO was created on February 23, 1947, based on the conclusions of the London Conference. Standards are adopted for all areas and can be useful and important for all countries. The first standards published by this organization were in the field of electrical engineering. As early as 1906, the International Electrotechnical Commission (IEC) was established and standards in this area are within its competence. In 1926, the International Standardization Association (ISA) was formed, the purpose of which was to develop standards in the field of mechanical engineering.

In the 1990s, the International Organization for Standardization became popular with a new series of ISO 9000 standards. These standards address service quality issues globally. Insurance services, financial services, tourism, education, etc. are included. ISO is very important among international organizations due to the creation of globally applicable international standards, has a high status, integrity and neutrality, cooperates with UN agencies, the World Trade Organization and others.

According to Todorović (2009), a standard is a document that aims to standardize the shape, size, quality and method of testing a product. In 1979, ISO established the Technical Committee ISO / TC 176, whose task is (a) standardization in the field of quality systems, (b) standardization in the field of quality assurance and (c) harmonization in appropriate quality technologies. Standards are formed to remove



obstacles in the international exchange of goods and services (Domazet et al., 2016). They are defined in order to, above all, set the required conditions in various fields of human activity, such as: environmental protection, health, safety, education, consumer protection, etc. At the same time, the focus is on the needs and desires of customers, which is why organizations are increasingly directing their organizational functions to meet them (Paraušić et al., 2017). Of course, this cannot be achieved without adequate quality, i.e. quality that will meet the expectations of customers, because it is quite logical that they want a quality product or service for their money.

Quality management (QM) or administrative quality management  $QM = \{QP, QC, QA, QI\}$  is a quality management approach in the business system that performs the function of quality management in the quality system, according to a specific quality policy, goals and responsibilities through: Quality planning (QP), Operational Quality Management (QC), Quality Assurance (QA) and Quality Improvement (QI) (Todorović, 2009).

From the point of view of the origin and development of the quality management system according to Haleta (2004), the six most important phases can be observed (Figure 1):

**Figure 1.** The evolution of quality management

1. I&T - Product finishing, scrap and quality
2. QC - Preparation of operational techniques and activities aimed at meeting the requirements in terms of product, process and service quality
3. QA - ISO 8402, 9000 - prevention, trust
4. QM - A product-focused ISO standard series system (quality management focuses on all enterprise functions as a set of interconnected parts)
5. TQM 1- Satisfaction of all customers, quality improvement
6. TQM 2- Comprehensive social aspect

Source: Haleta, 2004.

Inspection & Test (I&T) phase, defined by ISO 9000: 2000 as control - evaluation of conformity by observation and assessment with, where appropriate, measurement, testing or evaluation using templates.

Preventive quality control (QC) phase, which, according to ISO 8402: 1994, involves operational techniques and activities used to meet quality requirements.

Quality Assurance (QA) phase, which, according to ISO 8402: 1994, includes all planned and systemic activities built into the quality system and presented as necessary, to ensure adequate confidence that the entity will meet the quality requirements.

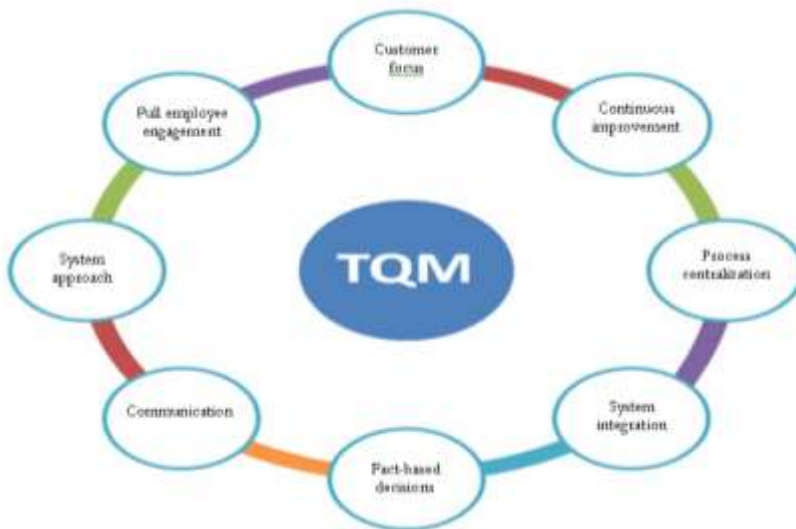
The Quality Management (QM) phase, according to the ISO 8402: 1994 standard, means all activities of the general management function that determine the quality policy, goals and responsibilities, and are achieved through quality planning, quality management, quality assurance and quality improvement within quality system.

Total Quality Management (TQM) phase, which defines a new business philosophy of the company which refers to the participation of all its members in achieving long-term success through satisfied customers (users) for the benefit of the company and society. Total TQM quality management emerges with the first revision of the ISO 9000 standard in 1987 and in 1994. TQM is aimed at completely changing the way the company is run, and the ultimate goal is customer satisfaction and continuous process improvement. All employees in the organization participate in the improvement of products and services, processes and corporate culture.

The Total Quality Society (TQS) phase harmonizes two key areas: quality of life and sustainable development, thus giving a humane dimension to quality.

Todorović (2009) points out that total quality management is a management approach to quality in a business system or organization that is based on achieving long-term success by meeting consumer demands and benefits for employees and the community. The overall quality management system is based on eight basic principles (Figure 2): (1) customer focus, (2) full employee engagement, (3) process centralization, (4) system integration, (5) system approach, (6) continuous improvement, (7) fact-based decisions and (8) communication.

**Figure 2.** TQM - Eight basic principles



Source: Authors

Despite the fact that the organization makes great efforts to improve quality, in the market, customers are the ones who determine its level: the organization can invest heavily in the education of its employees, software, new machines and devices and all this should contribute to greater consumer satisfaction. If the opposite is true, the organizations have not

achieved their goal;  
 employees in the organization should work dedicatedly on common goals, and the task of management is to provide a stimulating work environment;  
 the basis of TQM is the definition of process steps from input from suppliers to the output by which it is delivered to customers;  
 all business functions should be integrated into one system;  
 A systematic approach is indispensable in achieving the vision, mission and goals of the organization. The formulation of the strategy should be such that quality comes first;  
 a very important part of TQM is the analysis of processes and results, and the implementation of corrective measures, which contributes to the continuous improvement of quality;  
 information resulting from continuous analyzes is used in decision-making and forecasting future events;  
 it is also important that all information about organizational changes and operations is available to all employees. Communication within the organization is key to maintaining morale and motivation.

**Figure 3.** Classification of quality tools according to complexity



Source: Spasojević-Brkić et al.

As can be seen in the previous figure, the basic tools for quality include instruments for collecting quality data, and the complex tools for quality include methods, techniques and statistical levels of processing the collected data. Of course, there must be logical, professional and scientific coherence between the instruments for collecting quality data and the applied methods and techniques of data processing, as well as the statistical levels of analysis.

### **3. Properties, characteristics and measurement of service quality**

In one of the first papers in the field of service marketing, Rathmell (1966) listed 13 specifics of services, essential for the correct setting of the marketing concept. However, regardless of the initial discrepancies, the following specifics of services are most often mentioned in the literature today, around which the largest number of experts in this field agree:

- intangibility of service,
- heterogeneity (variability) of service,
- simultaneity (inseparability) of production and consumption of service and
- corruptibility (impermanence) of service (Veljković, 2019).

Intangibility of service is its key feature and it represents the core of the specificity that service has in relation to the physical product. It is invisible, has no smell, taste, nor can it be noticed or felt by any of the senses, as is the case with tangible (physical) goods. Although the service itself is intangible, the degree to which the service goes with the product as part of the overall offer varies. According to Kotler et al. (2009) it ranges from pure product to pure service. In this sense, it is possible to distinguish five categories of supply: (a) pure tangible product - are products such as soap, toothpaste, etc. when there is no need for services; (b) tangible product with certain services - sale of cars with warranty, service, operating and maintenance instructions; (c) a hybrid - when the offer consists of an equal share of the product and service - the restaurant is visited for food and service; (d) a major service accompanied by fewer products and services - e.g. air transport, and (e) clean service - when the offer consists only of a service - e.g. psychotherapy, weather forecast, massage.

Heterogeneity (variability) of service related to the problem of standardization of service is a characteristic that separates services from physically tangible products. Given the fact that services are processes, ie that the service is provided in the interaction between employee and client, due to different situations of use, but above all the person who provides the service, and other elements, it is difficult to standardize services. This is not the case with classic products. However, the problem is not only on the supply side, ie. persons who provide the service, because in this segment it is quite common to achieve the highest degree of uniformity, but the problem may also exist on the client's side, ie. service users. Namely, in the eyes of different users, service can be perceived differently, just as their requirements regarding the execution of the service may differ.

Simultaneity (inseparability) of production and consumption of service – in relation to most physical goods, which need to be produced first, and then, by a particular manufacturer, sold through distributors and finally consumed by users, when it comes to service, it is necessary that the service is first purchased and then produced and consumed by the customer at the same time, with the customer being an integral part of the production and delivery process of the service (Bergman & Klefsjö, 1994). The implications of this service feature on business are, therefore, as follows:

- clients participate in and influence the delivery of the service,
- clients influence each other in the service process, which also affects their overall satisfaction with the service,

employees influence the result (effect) of the service, because they are the ones who deliver it by interacting with clients, decentralization of operations is often very important in order for the service to be provided to the client at the right time and in the right place, and mass production is difficult, i.e. almost impossible to achieve, due to the limitations arising from the characteristics of the inseparability of production and consumption of services (Zeithaml et al., 2006).

Corruptibility (impermanence) of service, as a specificity, excludes the possibility of its storing or stock-keeping, and thus prolonging consumption. This feature arises from the simultaneity of production and consumption of services. It is obvious, therefore, that the service cannot be stored and kept, nor can it be resold or returned due to user dissatisfaction. Therefore, it excludes the possibility to manage the service as a product. A pleasant dinner in a restaurant, a plane trip to a destination, a summer vacation, a doctor's examination, a haircut and other services cannot be returned or saved for later or sold to someone else. If they are not sold within a certain time, they cannot be saved for sale in the future, so their potential for sale is lost forever. Services are a matter of current use and in that sense there is no possibility to manage them as with products. With services, it is very important to manage capacity properly. The ability and willingness to produce a service are the starting points that must be met before any transaction can be approached. If the capacities are not filled at the moment when they are free, they cannot be saved for the future, so their potential for sale is lost forever (Ćosić, 2010).

Quality of service is a set of properties and characteristics of quality (Domazet et al., 2016). Quality properties are permanent characteristics of services, where some can be measured or evaluated, and some cannot (Tables 1 and 2). When it comes to measurable properties of service quality, they can include service, effectiveness and durability (Table 1).

Service, as a measurable property of service quality, implies accuracy, ie a property that indicates that the quality of service in different situations is approximately the same. It is, therefore, a property that expresses the consistency of quality in service. However, it is not enough for the service to be just consistent, but it is important for the service to be precise, for the variations in quality to be as small as possible.

**Table 1.** Measurable quality of service properties

<b>MEASURABLE QUALITY OF SERVICE PROPERTIES</b>		
<b>SERVING</b>	<b>EFFICIENCY</b>	<b>CONSISTENCY</b>
Accuracy Precision	Availability Reliability Purposefulness	Durability Warranty

Source: Authors

Efficiency refers to the degree to which a product / service satisfies the consumer's needs and desires (Milisavljević et al., 2005). It can be seen that this is a quality property that is measurable and that refers to availability (availability), reliability (stability) and expediency (usefulness). A measurable property of service quality is durability. This quality property refers to the service life (duration of the service) and the guarantee, ie the guaranteed time of the possibility of using the service (Tešić, 2020).

However, there are service quality characteristics that are immeasurable (Table 2). These are, first of all, a property that refers to usability, because the service is not material so that it can be used, but it is available for use. It is not possible to measure exactly what the effect (use) of a service is, or how applicable and variable the service is in the given circumstances.

**Table 2.** Immeasurable quality of service properties

<b>IMMEASURABLE QUALITY OF SERVICE PROPERTIES</b>	
<b>USABILITY</b>	<b>FUNCTIONALITY</b>
Effect	Adaptation
Applicability	Supplement
Variability	

Source: Authors

Closely related to the previous property is the functionality, as an immeasurable feature of the service. This property refers to the degree of customization of the service to the customer, as well as the possibility of supplementing the service.

It should be noted that quality characteristics are variable performance, where some can also be measured or evaluated and some cannot (Tables 3 and 4). As a measurable characteristic of service quality (Table 3) there is a demand that indicates a quantitatively defined need for some type of service in the domestic or foreign services market, which users are willing to pay to meet it. Demand is significantly related to price as a measurable characteristic of service quality, because it has an impact on price movements, regardless of whether the price is determined by the hour, by the day of service or by the volume of services provided. Measurable characteristics of service quality include service delivery (distance of service delivery destination and delivery costs), service use (service capacities and convenience of service use), as well as the safety aspect of service use for both the user and the natural environment.

**Table 3.** Measurable quality of service characteristics

<b>MEASURABLE QUALITY OF SERVICE CHARACTERISTICS</b>				
<b>DEMAND</b>	<b>PRICE</b>	<b>DELIVERY</b>	<b>USE</b>	<b>SAFETY</b>
Foreign Domestic	Per hour Per day Per delivered services volume	Distance Costs	Capacity Enjoyment Deadlines	User Environment

Source: Authors

Naturally, there are characteristics of service quality that cannot be measured (Table 4) such as, for example, aesthetic characteristics of services related to the appearance and smartness of the environment in which the service is realized and the convenience of using the service in terms of visibility, information and complexity.

**Table 4.** Immeasurable quality of service characteristics

<b>IMMEASURABLE QUALITY OF SERVICE CHARACTERISTICS</b>	
<b>ESTETICS</b>	<b>USE</b>
Appearance Smartness	Visibility Information Complexity

Source: Authors

Among the first models for measuring service quality was the gap model that emerged from GAP analysis in the 1980s. This model was based on the analysis of non-compliance between the observed and expected quality of service, where there are five basic gaps, i.e. non-compliance (Reid & Bojanic, 2006):

The first gap (inconsistency) refers to the lack of understanding by management regarding the quality of service provided by the organization. In this case, the management does not understand the needs and desires of the service user. This is a consequence of insufficient research of service users by marketing, as well as the lack of communication in the organization (Domazet, 2012). This gap is a consequence of poor management, and as a solution it is proposed either to set up a new management or additional training of the existing one in order to improve the quality of services.

The second gap relates to the difference between the characteristics of the service and the expectations of service users assessed by management. The management has identified the need of the service user, but currently with the available resources it cannot bring the quality of the service to a satisfactory level. It can be said that the second gap is a consequence of the lack of communication between the manager and the project team for service development. The solution to this problem is a greater commitment

of management and putting the quality of service in the forefront of business and to transfer it to all organizational levels.

The third gap refers to the difference between the characteristics of the service and the way of providing the service, where by inadequate provision of the service, its special properties are lost and the level of quality decreases. This gap indicates the great importance of the human factor for improving the quality of services. The most common omissions occur due to the lack of teamwork, which is why the biggest challenge is the standardization of employees. The solution to this problem is to establish an adequate system of rewarding employees.

The fourth gap occurs as a problem of communication towards the service user through marketing activities and delivered services. The solution to this problem is better communication between management and marketing and developing awareness of the consequences of unfulfilled expectations of service users.

The fifth gap is the result of the previously mentioned four gaps, i.e. the difference between the service delivered by the company and the experience of the user of the received service.

The gap model is a very important tool in measuring service quality. The occurrence of any of these inconsistencies leads to a decline in the quality of service and the inability to adequately meet the needs and desires of service users. Therefore, it is the obligation of management to identify and eliminate the identified shortcomings in order to avoid the risk of possible loss of customers and thus distort the competitive position in the market.

The need to improve the gap model, gave rise to the “SERVQUAL” model (Parasuraman et al., 1985), which is mostly used today to measure the quality of services. The model determines the difference between perceptions and expectations. Five dimensions of quality are observed within the model: reliability, readiness to provide service, assurance, appreciation and visual impression. Reliability is an essential dimension of quality to maintain a competitive advantage in the market. In order to achieve that, it is necessary for employees to have the abilities, but also the readiness to use them to gain the trust of users with the quality of delivered services. The service needs to be provided accurately and precisely and thus continuously build the image of the organization. The service user must feel that the service provider is ready to provide him with a top-quality service in the most efficient way. Employees must be able, have the knowledge to inspire and retain the service user by convincing him of its quality. The service user should have the impression that the service provider respects and takes care of him by providing him with the necessary assistance at all times. The last, but also very important dimension of quality is the visual impression that refers to the appearance of the premises and employees. Management should take special care of the appearance of the facilities in which the service is provided. Professional appearance and kindness of employees are very important features of quality, as well as the appearance of advertising material.



For ease of use and identification, frameworks that group all business indicators into appropriate, representative groups are used in practice. One of the generally accepted and frequently used frameworks is the Balanced Score Card (Kaplan & Norton, 1996). The BSC classifies an organization's performance indicators into four basic areas: finance, internal processes, consumers, and learning and growth. The emergence of the BSC concept was prompted by the belief that existing approaches to measuring an organization's performance, based primarily on financial-accounting indicators, have largely become obsolete. In addition to financial indicators, non-financial business indicators are also used today to assess the company's success (Pjanić & Marjanović, 2014). In these circumstances, information is becoming increasingly important so that it becomes a basic resource that allows you to quickly adapt to changes in the general business conditions of the organization.

## **Conclusion**

When we talk about quality, we must keep in mind globalization, which is reflected in the integration of the world economy, the development of innovation and accelerating technological growth. There is strong competition in markets whose size far exceeds the size of individual national economies. The survival of individual companies in these markets is becoming increasingly difficult, and quality is emerging as one of the most important strategies. This was one of the reasons to approach the standardization of quality. Quality does not arise immediately, but gradually, at all organizational levels. The first level is market research. At this level, the needs of clients are researched and ideas are found. This is followed by the design and development of the service. At this level, services that will most adequately meet the needs of users are being developed. The third level is planning and in this phase the preparation of the utility program is done. The next organizational levels required for the creation of the service are the procurement of materials and means of service, then transport and storage. Only then is the service level reached, followed by the level of quality management while providing the service. The last level is the distribution of service and its exploitation by users.

The development of services at the end of the XX and the beginning of the XXI century is characterized by rapid development and the increasingly important role of services in national economies. There are a large number of different services on the markets of developed countries, such as transport, consulting, mediation services, health, financial, tourist, catering, communication, trade, communal, administrative, technical, scientific, etc. The service may change some of its characteristics. In that case, its type does not change, but its quality does. Service providers strive to maintain and increase their competitive advantage in the market by improving the quality of the services they provide, which is why it is crucial for management to know how to measure the quality of service. It is very important to understand the attitudes of the user of the service, i.e. the angle from which the user observes and experiences the service. The angle of observation of service quality by users and by management in the initial stages of improving service quality is in most cases different.

It is evident that in modern business where the "customer is in the center", the quality of services for organizations takes precedence. The quality of the delivered service is important not only for the business of an insurance company but also for the survival of the market. Achieving and maintaining the quality of service according to the principle of understanding customer expectations is considered as a basic strategy for successful provision of overall customer satisfaction and his retention, i.e. ensuring loyalty.

## References

- Bergman, B. and Klefsjö, B. (1994). *Quality from Customer Needs to Customer Satisfaction*. London: McGraw-Hill.
- Crosby, B. (2003). *Quality is Free*. New York: McGraw Hill.
- Crosby, B. (1996). [The strategy of situation management](#). Boston: Industrial Education Institute.
- Ćosić, M. (2010). *Upravljanje kvalitetom turističkih usluga*. Beograd: Visoka turistička škola strukovnih studija.
- Domazet, I. and Lazić, M. (2017). Information and communication technologies as a driver of the digital economy. *Glasnik Srpskog geografskog društva*, 11-19.
- Domazet, I. and Marjanović, D. (2018). FDI as a Factor of Improving the Competitiveness of Developing Countries: FDI and Competitiveness. In: V. Malepati & C. Mangala (Eds.), *Foreign Direct Investments (FDIs) and Opportunities for Developing Economies in the World Market* (pp. 82-104). Hershey, PA, Business Science Reference.
- Domazet, I. (2012). *Marketing komunikacije finansijskih organizacija*. Beograd: Institut ekonomskih nauka.
- Domazet I, Stošić I. and Hanić A. (2016) New technologies aimed at improving the competitiveness of companies in the services sector. In: X. Richet et al. (Eds.), *Europe and Asia: economic integration prospects* (pp. 363-377). Nice, France, CEMAFI International.
- Deming, E (1993). *The New Economics for Industry, Education, Government*. London: MIT Press.
- Heleta, M (2004). *TQM – Model izvrsnosti, integrisani menadžment sistemi i model izvrsnost*. Beograd: EDUCTA.
- Hanić, H., Domazet, I. and Drašković, B. (2011). Razvoj i upravljanje odnosima sa klijentima u industriji finansijskih usluga. *Poslovna ekonomija*, 9(2), 131-150.
- Juran, J.M. (1970). Konzumerizam i kvalitet proizvoda. [Njujork: Američko društvo za kontrolu kvaliteta](#).
- Kaplan, R. and Norton, D. (1996). *The Balanced Scorecard: Translating Strategy into Action*. Boston: Harvard Business School Press.
- Kotler, P., Adam, S., Denize, S. and Armstrong, G. (2009). *Principles of Marketing*. Sydney: The Marketing Metrics Edition, Pearson Education Australia.
- Macura, P. (2009) *Marketing osnove*. Banja Luka: Ekonomski Fakultet.
- Milislavljević, M., Maričić, B. and Gligorijević, M. (2005). *Osnovi marketinga*. Beograd: Centar za izdavačku delatnost Ekonomskog fakulteta.

- Mitrović, Ž. (1996). *Osnove modela sistema kvaliteta*. Beograd: Kultura.
- Oliva, R. and Kallenberg, R. (2003). Managing the transition from products to services. *International Journal of Service*, 14 (2), 160-172.
- Papić, Lj. (2011) *Menadžment kvalitetom*. Prijedor: Istraživački centar za upravljanje kvalitetom i pouzdanošću.
- Parasurman, A., Zeithaml, V.A. and Berry, L.L. (1985). A conceptual model of service quality and its implications for future research. *Journal of marketing*, 49, 41-50.
- Paraušić, V., Domazet, I. and Simeunović, I. (2017). Analysis of the relationship between the stage of economic development and the state of cluster development. *Argumenta Oeconomica*, 39(2), 279-305.
- Pjanić, M. and Marjanović, D. (2014). Integrisanost institucionalnih investitora Srbije u funkciji ekonomske efikasnosti. Paper presented at the 19th International Scientific Conference Strategic Management and Decision Support Systems in Strategic Management, Ekonomski fakultet, Subotica.
- Rathmell, J. M. (1966). What Is Meant by Services?. *Journal of Marketing*, 30 (4), 32-36.
- Reid, R. and Bojanic, D. (2006). *Hospitality Marketing Management*. New Jersey: John Wiley & Sons, Inc.
- Spasojević-Brkić, V., Cvijanović, M. and Klarin, M. (2004). Organizacija sistema kvaliteta i alata kvaliteta. *Industrija*, 32 (4), 91-107.
- Tešić, D. (2020). Measuring dimensions of service quality. *International Journal of Strategic Management and Decision Support Systems in Strategic Management*, 25(1), 12-20.
- Todorović, Z. (2009). *Upravljanje kvalitetom*. Banja Luka: Ekonomski fakultet.
- Veljković, S. (2019). *Marketing usluga*. Beograd: Ekonomski fakultet.
- Zeithaml, V.A., Bitner, M. and Gremler, D. (2006). *Services Marketing – Integrating customer focus across the firm*. Boston: McGraw-Hill.

# DIGITAL TRANSFORMATION IN THE HEALTHCARE INDUSTRY IN CONDITIONS OF COVID-19 PANDEMIC: THE FUTURE OF TELEMEDICINE

Dejan Mandić PhD<sup>4</sup>

**Summary:** Due to the global pandemic caused by the COVID-19, the health sector is facing great challenges this year (2020), primarily financial, and then strategic, digital and organizational. The aim of this paper is to point out the role and significance of digital technologies and their broad usage in various spheres of life, especially in the field of medicine and medical services. The importance of telemedicine has strongly grown in the changed conditions, shaping new era in the health industry and its market. The pandemic accelerated digitalization in medicine and increased faster access to various medical services, which might not normally be so easily available. Generally accepted opinion was that digital technologies in medicine are primarily used in the equipment improvement, but new conditions during the pandemic forced broaden usage of digital technologies, primarily in establishing two-way communication among doctors and patients, improving better access to services, but also improving related industries: pharmaceuticals, manufacturers of diagnostic and treatment devices, as well as the scientific community.

**Key words:** Telemedicine, telehealth, pandemic, COVID-19, digital technologies, e-health, medical services, remote treatment.

**JEL classification:** D83, D87, G22

## Introduction

The global pandemic began as a health crisis and spread across the planet at an unprecedented speed. Despite the isolation measures that were intensively implemented in Europe, especially during the spring, and now in the autumn, in order to protect human lives, as well as the overload of healthy systems, the pandemic is affecting and changing the economy on a national and global level.

The pandemic has destroyed the global production and supply chain. From month to month, countries borrow more in order to help their economy and citizens. Many companies are coming or will go bankrupt, both large international and regional, as well as local, small and medium enterprises. Due to the crisis, many companies decide to return production to their home countries and turn primarily to their home (national) markets.

The accelerated digitalization caused by the 4th industrial revolution - the Digital Revolution, the development of information technologies, i.e., devices and software,

---

<sup>4</sup> Triglav insurance company Belgrade, Serbia, Belgrade Banking Academy Belgrade, Serbia, dejan.mandic@triglav.rs

made possible that people from the IT profession had the "privilege" of working from home or so-called mobile offices in the previous period. The pandemic was triggered by the fact that a large number of people had to adapt "by force" to this particular way of working from home. At the same time, these people are also the consumers, which, in such an environment, leads to a change in consumer habits. With the help of mobile devices and websites, the choice is much greater, less is spent, and the need for some products and services is reduced.

On the other hand, the need for doctors and health services has drastically increased. This refers especially to people with chronic diseases who have found themselves in a situation in which, due to possible infection, or overcrowding of health facilities, they cannot get to their doctors, or be adequately treated by professionals. Healthcare faced not only financial challenges, but also organizational ones. This is the reason why telemedicine came to the fore, which in 2020, with the help of digital technologies, drastically changed the health and related industries (pharmaceutical, diagnostic, and even the information technology industry itself). The insurance industry, as well as the stock market of telemedicine companies and the launch of a large number of telemedicine start-ups had a special impact.

The first case of an infected and sick patient with corona virus (later officially called COVID - 19) was registered on November 17, 2019 in Wuhan, China. After a year, the result of its actions is as follows:

- The World Health Organization declared a pandemic on March 11, 2020 (up to that day, more than 118,000 people had been infected and 4,291 people had died in 114 countries around the world) (*WHO, 2020.*)
- After 365 days, some states experienced the 2nd wave and some the 3rd wave of the corona. The number of infected is almost 55 million, and about 1.31 million people died. (<https://covid19.who.int>)
- In Serbia (for one year) a total of 1,536,960 people have been tested. 92,375 cases infected by COVID-19 have been registered, and 1,054 people died. The mortality rate is 1.14%. (*Covid19.rs*)
- It is estimated that 60 million people able to work lost their jobs by June 2020 in the European Union. At the same time, over 36 million people in America and over 100 million people in China lost their jobs, too. (*IMF, 2020.*)
- According to the projection of the International Monetary Fund, the world economy loses \$ 375 billion in gross products per month,
- while the forecast for GDP decline for this year, according to the IMF and the European Commission, for some of the countries is as follows: Serbia 1.5%, Germany 4.1%, Hungary 6.1, Montenegro 12%, while Spain recorded the largest decline with 12.8%. (*IMF and EC forecast 2020*)

The aim of this paper is to show that the pandemic has accelerated digitalization in the field of medicine and increased faster access to services, which would not normally be so easily available to us. It is definitely a step forward in improving the interaction between doctors and patients. And while the world is rightly arguing about what a big

reset will be, depending on whether the analysis is done by supporters of the global or national economies, this big reset is actually happening in telemedicine right now.

## **1. History and development of telemedicine**

Observed through the history of "Radio News Magazine" from 1924, which shows an illustration of a doctor who, through radio waves, approaches a patient and performs a video examination, after almost 100 years, the fiction of that time becomes a reality today.

The first radiological images, in the 1940s, were exchanged in Pennsylvania, USA, between two places 24 miles apart. The first use of video communication for medical purposes was established at the University of Nebraska in 1959. Initially, the information was passed on to the students, and after 5 years, the state hospital was connected to this system for video consultations.

Telemedicine has been particularly developed in rural areas, where populations with limited access to health care have now been able to reach professionals from afar. In the 1960s and 1970s, NASA and several U.S. health and social services agencies invested heavily in time and money to research telemedicine. One of the most successful of these government projects was the partnership of the Indian Health Service and NASA. The project was based on the transfer of health data by in-orbit astronauts to doctors on Earth who provided advanced health care and access to medical care to Native Americans in the Papago Reserve in Arizona.

Microwave technology transmitted X-rays, electrocardiographs and other medical information to and from the Public Health Service Hospital. The invention of the color screen enabled the creation of teledermatology for the treatment of skin infections on space flights. In 1986, the Mayo Clinic began conducting a two-way satellite program between camps in Rochester, Minnesota, and Arizona to help physicians located in remote areas treat patients.

With the development of television, satellite communications, the Internet and mobile telephony, telemedicine developed more with the help of accompanying devices. Modern health technology, i.e., the devices on which it is based, has smaller dimensions and an increasing number of possibilities and characteristics. Devices like fitness bracelets and heart rate monitors are an early example of mobile health tools that monitor vital patient data in real time. Smart watches and smart glasses are already popular among doctors and will soon be used with the help of smartphones and laptops to free doctors from tedious and extensive paperwork. Stanford medical students Pelu Tran and Ian Shakil founded Augmedik, a digital health startup that uses Google Glass to automatically transcribe medical records during a patient's examination. (<http://www.fintechbd.com/an-interview-with-augmedix-founder-pelu-tran/>) This and similar concepts, which probably seem fantastic to some doctors, will soon be common - just as modern medicine seemed only fiction in 1924. (*Evisit, History of telemedicine, 2020*)

## 2. Conceptualization of the concept of telemedicine, its role and significance



There are numerous definitions of telemedicine. The terms "telemedicine" and "telehealth" are generally used interchangeably. However, there are also claims that telemedicine is a subset of telehealth. The difference in definitions arises depending on which technologies (video conferencing, internet, imaging, streaming media, terrestrial and wireless communications) and providers are involved in the process itself. Telemedicine is usually defined as the provision of remote clinical services, while telehealth, in addition to clinical services, can also refer to remote non-clinical services, such as training of service providers, continuing medical education, administrative meetings, presentations of pharmaceuticals or medical devices.

The classic - literal translation of telemedicine is the provision of health services for remote treatment. According to the World Health Organization, telemedicine is: "Provision of health services, where distance is a crucial factor, by health care professionals who use information and communication technologies, with the exchange of valid information for diagnosis, treatment and prevention of diseases and injuries, research and continuing education of health care providers, all in the interest of improving the health of individuals and their communities." (*WHO, Opportunities and developments in Member States, 2010.*)



According to the American Telemedicine Association (ATA): "Telemedicine is the use of medical information exchanged from one site to another via electronic communications to improve a patient's clinical health status." (<https://www.americantelemed.org/>)

The situation in European countries varies from country to country. In most countries there is no legal definition of telemedicine, but the relevant, mostly professional health associations, have given a definition and mode of operation of telemedicine and telehealth, as can be seen in the table below:

**Table 1.** Overview of definitions of telemedicine in European countries

Country	Laws	Other mandatory rules
<b>Belgium</b> 	There is no definition of telemedicine under Belgian law.	Telemedicine as the use of telephone notice, electronic notice and prescription, telemonitoring (remotely, by video conference and by medical applications), teleconcertation between professionals and the storage of health data in the cloud
<b>France</b> 	<p>"Telemedicine is the remote practice of medicine based on information and communication technologies.</p> <p>It aims at having healthcare professionals</p>	

liaising with each other, together with patients or not.”

<p>Germany</p> 	<p>There is no definition of telemedicine under German law.</p>	<p>Telemedicine is a collective term for different concepts of physicians’ care that share the principle approach that the medical healthcare services in the fields of diagnostic, therapy and rehabilitation as well as in the field of physician’s decision consultation are provided over distance (or at intervals in time) using information and communication technologies.”</p>
<p>Italy</p> 	<p>There is no definition of telemedicine under Italian law.</p>	<p>“Telemedicine means a way of providing healthcare services, through the use of innovative technologies, in particular Information and Communication Technologies (ICT), in situations where the health professional and the patient (or two professionals) are not in the same location.“</p>
<p>The Netherlands</p> 	<p>There is no specific law governing telemedicine in the Netherlands</p>	<p>“eHealth is the use of modern information and communication technology to support or improve health and healthcare.”</p>
<p>Spain</p> 	<p>There is no specific law governing telemedicine in Spain</p>	<p>Where the clinical practice of medicine through consultation exclusively by letter, telephone, radio, newspapers or the internet, is contrary to ethical standards. The correct action inevitably involves personal and direct contact between doctor and patient.</p>
<p>United Kingdom</p> 	<p>There do not appear to be any separate provisions regarding telemedicine</p>	<p>The Care Quality Commission (CQC) is responsible for regulating healthcare institutions and providers in England and requires telemedicine providers to register to perform “transport services, triage and medical advice provided remotely.”</p>

Source: Telemedicine in Europe – [www.osborneclarke.com](http://www.osborneclarke.com)

All previous pandemics have relied on quarantine and isolation. The COVID-19 pandemic relies heavily on new technologies for prevention, triage, self-isolation and quarantine. Health systems in all states are overloaded, hospitals do not have the capacity to receive newly infected patients, and medical staff is running out of power after months












of fighting the virus. Excessive presence of people in health care facilities increases the possibility of spreading the infection both among doctors and among patients.

The main question in the time of COVID-19, is how to provide health care without physical interaction with patients, with telemedicine coming to the fore. As a result, many countries, at the level of their ministries of health, have begun to encourage citizens to use remote treatment services, in order to reduce the risk of exposure to the virus. At the same time, doctors are encouraged to adapt to the provision of services through telemedicine. This prevents unnecessary visits to health facilities and reduces the pressure on health workers and the system.

A special form of prevention, self-assessment, identification and monitoring of infected present telemedicine applications, which, again with the help of government investment, have emerged and are widely used contributing to reducing the spread of pandemics. What is more, they also cause the reduction of spreading false news and, therefore, they reduce panic among citizens.

The following table gives examples of the "most interesting" applications presented in the last few months:

**Table 2. COVID-19 applications**  
(applications intended for prevention and protection against COVID-19 virus)

App	Country	Downloads	% of pop.	Reviews	Released on
 #OstaniZdrav	Slovenia	100.000+	4,8	3.1	18.08.2020.
 Stop COVID-19	Croatia	50.000+	1,23	3.9	30.07.2020.
 StopKorona!	North Macedonia	50.000+	2,4	3.3	08.04.2020.
 Immuni	Italia	5M	8,28	2.6	01.06.2020.
 Coronavirus - SUS	Brasil	5M	2,38	3.5	05.07.2020.
 Aarogya Setu	India	100M+	7,39	4.1	11.04.2020.
 COVIDSafe	Australia	1M+	4	2.8	04.06.2020.
 NHS COVID-19	England & Welss	5M+	8,77	4.0	12.08.2020.
 NZ COVID Tracer	New Zeland	5M+	20,46	2.5	19.05.2020

Source: Author - Play Store, App store

The mentioned applications are those used in countries that had a very bad situation during the first wave of COVID-19 such as Italy, Brazil, India, as well as those that successfully coped with the virus such as New Zealand and Slovenia from the environment of Serbia. The applications ask citizens for basic information starting from the location, age, gender and the current health state. There is a wide range of symptoms that are processed, primarily related to the symptoms of COVID - 19, such as cough,

fatigue, lack of sense of smell and taste, etc. The number of "downloaded" applications ranges from only 1.23% in Croatia in relation to the number of inhabitants, over 8.77% in England and Wales, to almost 21% in New Zealand. On the other hand, it is interesting that the New Zealand application is the worst rated by users, with a rating of 2.5, while the best rated Indian application is rated 4.1, and it, otherwise, has over 100 million downloads, which is about 7.39% compared to the total population of India.

Due to the pandemic caused by the COVID-19 virus, telemedicine services have experienced an unprecedented expansion. Telemedicine has proven to be very safe and effective for providing health services that are not urgent and can be performed out of doctor's offices.

Estimates for America are that more than 20% of all medical visits will be conducted via telemedicine in 2020, which represents \$ 29.3 billion of medical services. Similarly, researchers predict that up to \$ 106 billion of current U.S. healthcare costs could be virtualized by 2023.

The results of the research show the following data related to patients:

- Over 20% of all medical visits to physicians will be performed - conducted through telemedicine services, representing US \$ 29 billion in medical services in 2020.
- This number is expected to be more than US \$ 106 billion in 2023
- Before the COVID-19 pandemic, only 14% of Americans used telemedicine at least once
- Since the beginning of the pandemic, 57% of Americans have used telemedicine services
- 23% of patients said they would continue to use such services after the end of the pandemic
- 28% of patients stated that the quality of the examination is the same, or even better in relation to personal visits to the doctor
- Visits are usually made by phone 45%, then by laptop 39% and tablet 16%

On the other hand, the following data refer to the use of telemedicine services concerning doctors:

- The number of doctors who reported that they have telemedicine services in their offers jumped by 38% compared to 2019
- Telemedicine services and tools are 24% more adopted by female doctors compared to their male colleagues
- Doctors who are in their 40s and 50s are more likely to use telemedicine than their younger colleagues
- The top 10 specialties that are most in demand during telemedicine examinations of chronic diseases are the following: Endocrinology, Rheumatology, Gastroenterology, Nephrology, Cardiology, Urology, Neurology, Geriatrics, Hematology / Oncology and Pulmonology. (2020 State of telemedicine report, Doxymity, 2020.)

For comparison, the situation in the Russian Federation is as follows:

Until 2020, the annual growth of telemedicine in Russia was projected at 10-15%, and the share of all digital medical services in the Russian economy could reach RUR 90 bln (\$ 1.2 bln) by 2023. But the pandemic and the surge in interest to telemedicine have made us revise our previous forecasts.

Experts at the Etnamed concierge service provider predict that the Russian telemedicine market can be expected to at least double by the end of this year.

Voluntary medical insurance also includes telemedicine services so that, while in-person medical appointments are temporarily unavailable, customers could still get medical advice. Remote consultations will be cheaper both for insurers and those who pay for medical services themselves than a visit to a private clinic. (<https://investforesight.com/telemedicine-market-to-double-in-russia>, 12.05.2020.)

### **3. Challenges and opportunities of telemedicine**

The coronavirus has brought an unprecedented global challenge to the health sector. Although health systems vary from country to country, they all face identical challenges. This includes not only viral pandemics but also chronic and other diseases, as well as health consequences caused by environmental pollution and climate change. The pandemic suddenly forced more people to use digital technologies and try telemedicine. 2020 is on its way to become the year in which telemedicine has experienced the greatest expansion from the beginning of its application until today.

As time goes on, telemedicine will become more advanced and it will increase its influence in the healthcare industry. New devices, computer programs and applications are helping doctors improve their services and deal with ongoing challenges, such as the coronavirus pandemic. Telemedicine has great potential to drastically reduce health care costs, improve the availability of physicians and patients, change treatment, and ultimately improve treatment outcomes.

The result of the global population aging is an increasing number of patients with chronic diseases. The share of the costs of treatment of the elderly still represents a large part of the costs of health care. With the help of telemedicine, doctors can better "service" their patients, reduce the number of visits to the clinic, as well as last-minute cancellations, thus improving their efficiency and reducing costs.

In order for telemedicine to continue its further development, it is necessary to improve communication and consolidate knowledge and information flow between Hospitals, Public health organizations, Pharma companies, MedTech companies, Insurance companies and IT companies.

However, as with everything new, there are problems and obstacles to the spread of telehealth such as:

- Legal regulations, which are not defined at all, thus, limiting telemedicine services, both through state and private health care institutions,
- Restrictions on payment for telemedicine services, both state and private health insurance,
- Appropriate telecommunication connections and broadband internet (5G technology) which does not cover all areas and places where people live,

- Lack of appropriate national institutions that would create a comprehensive strategy in the organization, spreading and application of telemedicine,
- High costs of technology and infrastructure,
- Insufficient analysis of previous practice and experience in the application of telemedicine,
- Further digitalization and introduction of digital patient records,
- Data protection - cybersecurity ...

On the other hand, there are many benefits that telemedicine brings with it, these are just some of them:

- From the comfort of our own home, we get a medical service, without exposing ourselves to unnecessary risk,
- Complete medical staff (doctors, nurses, technicians, pharmacists, insurers ...) in one place,
- Physical distance is no longer an obstacle to obtaining an examination by a top doctor from another city, region or country,
- Global approach, support to fellow countrymen wherever they are in the world,
- Current availability of medical staff that saves time and money,
- Digital card and transaction security.

Despite the challenges that arise, it can be said that this year is the year of digital health. Telemedicine is a key element in the transformation of digital healthcare. The use of telemedicine tools to treat patients compensates for the lack of resources and professional staff. The year 2020 was marked by record funding, mega-mergers and a wave of companies that went public. The third quarter of this year brought in more than \$ 6.6 billion in funding for health innovations, making total funding for this year about \$ 16 billion - a figure higher than any previous year. (*StartUp Health, 2020, Q3 Report*)

Before the pandemic appeared, start-up companies had needed 18 months to 2 years to raise several million dollars to begin with developing and implementing their innovations, and this year it has happened in just a few weeks. All those technologies and applications such as: telemedicine, remote monitoring and platforms for ordering medicines directly from manufacturers to consumers, which keep people away from hospitals and pharmacies, will be more appealing to investors.

In some way, telemedicine companies and applications take us back to the days when home calls and doctor visits were normal and when the doctor-patient relationship included a special closeness, even though it is now a distance examination.

The global digital health market grew from \$ 95.8 billion in 2018 to \$ 114.5 billion in 2019. However, this year that number is expected to reach \$ 144.4 billion. (<https://www.grandviewresearch.com>) Currently, investors mostly trade, or rather buy, shares of the following five telemedicine companies: Teladoc Health, Livongo Health, One Medical, Humana and CVS Health.

The following table shows the current value of shares, changes on an annual basis, as well as the market value of companies.

**Table 3.** Value of companies on stock exchanges

Company	20. Nov. 2020.	Market Cap	1-Year Change
Teladoc Health Inc NYSE: TD	200,00 USD +8,81 (4,61%)	28.99 B	75.20 – 253.00
Livongo Health Inc (LVGO)	139,77 USD 0,00 0,00%	14.52 B	392.15%
1life Healthcare Inc NASDAQ: ONEM	35,44 USD +1,69 (5,01%)	4.71B	15.00 – 44.87
Humana NYSE: HUM	406,21 USD –0,96 (0,24%)	53.76 B	208.25 - 474.70
CVS Health Corp NYSE: CVS	66,39 USD +0,33 (0,50%)	86.90 B	52.04 – 77.03

Source: Author - NYSE (New York Stock Exchange) and NASDAQ (National Association of Securities Dealers Automated Quotations)

Teladoc is a company that connects patients with doctors who help them detect symptoms, determine laboratory tests and, if necessary, prescribe medication. When necessary, doctors further consult specialists or emergency departments. The value of TDOC shares increased by more than 170% in 2020. New users across the platform increased by 60% and new registrations by 125% compared to the previous year. Both numbers are believed to be a direct result of the Covid-19 pandemic that brings awareness and the opportunity to use telemedicine.

Unlike Teladoc, Livongo sells personalized services to employers and health systems. These employers then offer company benefits to their employees and members. Those employers then offer the company's benefits to its employees and members. Since the beginning of the year, the value of Livongo - LVGO shares has increased by over 340%.

One Medical is a new company that has appeared in this circle of telehealth companies. The company's shares have been publicly traded since January 2020. The value of their shares has increased by almost 75%. One Medical has a direct model of primary care. Patients pay the company an annual fee of \$ 199. This gives them access to doctors and the company's primary health services.

One of the catalysts that opens up the targeted market for telehealth is that insurance companies now agree to cover these visits. There is obviously a financial

component to this. As patients and employers continue to find ways to lower costs, telehealth is seen as an opportunity to bring down the cost of doctor visits.

#### **4. Using Digital Technology to Fight COVID-19**

Modern solutions in the diagnosis and monitoring of diseases are used as powerful tools to fight the current pandemic. New technologies help identify hot spots in order to prevent infection, reduce the need for physical contact in diagnostics and, most importantly, work on the development of the vaccine for COVID-19. For instance, the BlueDot application protects people around the world from infectious diseases, using human and artificial intelligence. BlueDotsStartup has developed a patented global warning system to monitor and predict, as soon as possible, the spread of dangerous infectious diseases.

There is a large number of startup companies that provide various solutions for: remote monitoring of patients, checking symptoms, diagnosing diseases, recommendations for treatment and use of drugs, vaccines, respiratory protection devices.

The most interesting applications are those that, based on video, reduce or completely eliminate the need to wear special devices that measure vital life functions (such as heart rate, respiratory rate, oxygen saturation ...). Therefore, telemedicine, or remote monitoring of the patient, gains importance and takes over the role of primary health care and preventive medicine. K Health is a free primary care application that allows millions of users to receive health care at 90% lower cost than usual. This application, like many others, can help prevent heavy burdens on healthcare systems. K Health offers free virtual primary health care, answering a number of key questions for analyzing the symptoms caused by COVID-19.

Ventec Life's mission is conducted to redefine patients' respiratory care. Ventec's VOCSN product integrates five different medical devices into one integrated respiratory system. For COVID-19, ventilators are key to keeping patients alive in the most difficult moments. Most hospitals do not have enough respiratory devices, as well as enough professional staff to handle them, in order to provide appropriate care to patients diagnosed with COVID-19. Ventec offers a 5-in-1 solution to help hospitals fight the virus. (*Plug and play, The Top HealthStartups Fighting COVID-19, 2020.*)

After 10 years of existence, the biotechnology company MODERNA has stood side by side with the world's giants for the production of vaccines. On November 16, 2020, MODERNA published preliminary data from a third phase of clinical trial, indicating 94% efficacy in preventing COVID-19. Side effects included injection site pain, fatigue, muscle aches and headache. MODERNA vaccine has shown similar efficiency as Pfizer-BioNTech vaccine, BNT162b2. The only difference is that MODERNA vaccine requires storage at a standard medical refrigerator temperature of 2-8 ° C (36-46 ° F) for up to 30 days or -20 ° C. -4 ° F) for up to 4 months, while Pfizer vaccine requires ultra-cold storage in a freezer at -70 ° C (-94 ° F). MODERNA has announced that it will charge the governments that intend to buy its vaccine between \$ 25 and \$ 37 per dose. ([www.modernatx.com](http://www.modernatx.com))

## 5. Telemedicine in Serbia

Telemedicine is not unknown in Serbia. After long preparations, Serbia entered the world of telemedicine in 1997. Experts from the Military Medical Academy and Prosmart company from Belgrade formed the first telemicroscopic network, with a center at the Military Medical Academy and users in Nis, and they were among the first in Europe to pave the way for faster development of all types of telemedicine and successfully join the ranks of technologically developed countries. The Military Medical Academy and several of our university institutions and centers in Belgrade, Nis and Sremska Kamenica provide a valuable contribution to the development of telemedicine and have successful international cooperation.

Telemed.rs is the first medical site in Serbia that, with its IT efforts, has been trying for 17 years to improve Serbian medicine so that medical services are available to the most remote areas. It also made the possibility for top diagnosticians to be available anytime and anywhere.

According to the announcement of the National Community for Local Economic Development (NALED), in the second half of June 2013, the first five examinations were performed via telemedicine, so patients from the municipality of Boljevac could get advice from specialist doctors from Zajecar without travelling to that city. The examinations were performed in the presence of experts from the Telemedicine Network of the American state of Missouri, who came to Serbia for the completion of the pilot project called "Introduction of Telemedicine in Eastern Serbia". The examination was realized only a year after the initial idea. On this occasion, it was decided that the first health institution, included in the project, would be the Boljevac Health Center, which is connected to the Zajecar Health Center and the Clinical Center in Nis by telecommunication equipment.

Due to the fact that mobile telephony and the Internet spread in the Republic of Serbia, many doctors and institutions use and practice telemedicine without even being aware of it, providing services to patients via emails, phone calls, or various communication applications, or through video calls.

It can be said that 2020 is definitely a turning point in Serbia, as far as telemedicine services are concerned. Citizens were offered the online platform DokTok, then the application Doktorijum and the online platform Globaldigitalclinic, as well as their application GDC Visit Me.

DokTok ([www.doktok.rs](http://www.doktok.rs)) - the first online platform for professional health consultations is available to citizens throughout Serbia, completely free of charge. Every day, in the period from 10 AM to 8 PM, users have at their disposal more than 150 general practitioners and specialists, who will provide them with general information about the symptoms of the disease, their causes, information about the effects of certain drugs and psychological support. The platform is intended for all health consultations that do not require urgent medical help and are not a consequence of infection with the COVID- 19 virus, and they are related to the general health condition or the need to talk to a psychologist. In that way, citizens have the opportunity to get professional

consultations without going to the Health Center and staying in the waiting room, and the health system is unloaded in the crisis period.

Doktorijum ([www.doktorijum.com](http://www.doktorijum.com)) is an application that allows users to easily and quickly schedule an appointment with a doctor of their choice. They offer a large number of doctors from various fields of medicine. The application is based on an algorithm that through several answers can suggest a specialization to which the users' symptoms correspond, directing them to the recommended doctor and health institution.

Globaldigitalclinic ([www.globaldigitalclinic.com](http://www.globaldigitalclinic.com)) is a start-up that has offered everything that a user needs, whether it is scheduling an examination at the clinic, the arrival of a doctor for a home visit or, the most important offering telemedicine service, with mandatory digital patient record.

Global Digital Clinic (GDC) was founded with the aim to create accessible, affordable and more efficient health care for everyone. They want to provide faster, easier and more efficient access to doctors in all specialties for everyone wherever and whenever you need them. GDC Visit Me offers a simple solution for reliable and affordable health care: HOME VISITS (by doctors and other health care professionals), VIDEO CONSULTATION (With medical specialists) and CLINIC VISIT (Organized at a preferred location of your chosen doctor).

And most importantly, the platforms have been generously accepted by doctors, and the fight for clients has just begun. In the coming period, more similar platforms and applications are expected to appear.

## **Conclusion**

According to the regions, the telemedicine market is divided into Europe, North America, Latin America, the Asia - Pacific region, the Middle East and Africa. North America holds almost 41% of the market share, followed by the European market. Strong growth of the Asia-Pacific region is expected in the coming years, primarily thanks to India and China, especially in the rural areas of this region.

"Thanks" to the Covid-19 pandemic, the decades-long development of telemedicine and investment in it has finally paid off. This year, telemedicine has shown that it is an inevitable and effective tool for providing health care. Thanks to the development of digital technologies, telemedicine has become available to a much larger number of both patients and doctors than it was in the previous period.

Driven by the effects of the pandemic, telemedicine (telehealth) is an effective tool for providing basic medical services and health care. It is something inevitable for doctors and patients who follow new technologies. It will be used more even after the pandemic with the intention to become one big branch of the medical industry. The use of telemedicine services in chronic diseases is especially expected to increase, having in mind an aging population, an increasing number of people living outside large urban health centers, fewer professionals, as well as cost reductions.

Nowadays, many aspects of our lives, including HEALTH CARE, are becoming dependent on digital technology. This fact affects directly investors to find new ways to



profit from the companies involved in what may be the future of medicine: TELEMEDICINE.

Telemedicine can be considered a "mandatory" option for advanced patients and doctors.

## References

Telemedicine, Global Observatory for eHealth series - Volume 2, WHO, 2010.

<https://www.who.int/goe/publications>

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019>

<https://covid19.rs/>

<https://ec.europa.eu/>

<https://www.imf.org/>

<http://www.fintechbd.com/an-interview-with-augmedix-founder-pelu-tran/>

What is telemedicine, 2020.

<https://evisit.com/resources>

Telemedicine in Europe, 2020.

[www.osborneclarke.com/wpcontent/uploads/2020/05](http://www.osborneclarke.com/wpcontent/uploads/2020/05)

2020 State of telemedicine report, Doxymity, 2020.

<https://www.doximity.com/>

2020 global health care outlook, 2020.

<https://www2.deloitte.com/global>

<https://healthtransformer.co/archive/2020/10>

<https://investforesight.com/telemedicine-market-to-double-in-russia>

<https://www.grandviewresearch.com>

The Top Health Startups Fighting COVID-19, 2020.

<https://www.plugandplaytechcenter.com/covid-19-startup-technology>

Top 10 telemedicine companies 2020, 2020.

<https://www.fortunebusinessinsights.com/blog/top-10-telemedicine-companies>

[www.modernatx.com](http://www.modernatx.com)

[www.telemed.rs](http://www.telemed.rs)

[www.doktorijum.rs](http://www.doktorijum.rs)

[www.doktok.rs](http://www.doktok.rs)

[www.globaldigitalclinic.com](http://www.globaldigitalclinic.com)

# CURRENT IMPACT AND FUTURE PROSPECTS OF ICT AS A SOURCE OF ECONOMIC GROWTH IN THE INFORMATION AGE

Blerim Morina<sup>5</sup>  
Albana Bashota<sup>6</sup>

**Summary:** The paper present mainly aims to analyze and emphasizes the ways in which intellectual property rights affect options and prospects for development, particularly in implementing new business models, exploiting new markets and exploring new avenues of economic growth in the information era is fundamental to how effectively development goals can be pursued. Conversational issues such as database protection, emerging issues such as the appropriateness of business method patents, alternative proprietary models such as the Open Source movement, the prospects of copyright as tool for penetrating global markets in cultural goods and the importance of e-commerce as a means of simulating economic growth are considered by this paper. It is certainly the ubiquitousness of information technologies provides a universal context to examine the backward looking question of how to rethink and the forward looking question of how new technology can be deployed to generate new revenue streams and stimulate entrepreneurial activity.

**Keywords:** Economic Growth, Information and Communication Technology, E-commerce, Intellectual Property Rights.

**JEL classification:** O1, O2, O3, O34

## Introduction

ICT pose challenges but at the same time offer opportunities. The main challenges arise from international rules on copyright and database protection, which are increasingly restricting free access to protected works that need in the context of public policies such as education and research. On top of high Internet use and penetration prevailing these legal tools may represent additional access barriers. In order to mitigate such effects, should seek to balance effective protection of intellectual property rights (IPRs) against robust limitations of exclusive rights to encourage competition and socially beneficial uses of ICT. In this respect, the international IPRs system provides important flexibilities in the implementation of IPRs obligations. Making use of these

---

<sup>5</sup>Msc, University of Prishtina “Hasan Prishtina” , Faculty of Economics, e-mail: [blerim.morina@uni-pr.edu](mailto:blerim.morina@uni-pr.edu)

<sup>6</sup>Bsc, University of Prishtina “Hasan Prishtina” Faculty of Electrical and Computer Engineering, e-mail: [bashotaalbane@gmail.com](mailto:bashotaalbane@gmail.com)

flexibilities is a way to reap the benefits offered by ICT, in particular with respect to the promotion of the local music industry and on-line based education and research. To which extent ICT may actually be used as an effective tool for economic growth largely depends on the domestic regulatory framework, taking account of the particular situation in each country. Intellectual property rights have never been more economically and politically important or controversial than they are today. Patents, copyrights, trademarks, integrated circuits and geographical indications are frequently mentioned in discussions and debates on such diverse topics as public health, food security, education, trade, industrial policy, traditional knowledge, biodiversity, biotechnology, the Internet, the entertainment and media industries. In a knowledge-based economy, there is no doubt that an understanding of IPRs is indispensable to informed policy making in all areas of human development. Intellectual property was until recently the domain of specialists and producers of intellectual property rights. The TRIPS Agreement concluded the negotiations has signalled a major shift in this regard. The incorporation of intellectual property rights into the multilateral trading system and its relationship with a wide area of key public policy issues has elicited great concern over its pervasive role in people's lives and in society in general. Significant new developments are taking place at the international, regional and bilateral level that build on and strengthen the minimum TRIPS standards through the progressive harmonization of policies along standards of technologically advanced countries. The challenges ahead in designing and implementing IP-policy at the national and international levels are considerable. Empirical evidence on the role of IP protection in promoting innovation and growth in general remains limited and inconclusive. Conflicting views also persist on the impacts of IPRs in the development prospects. Some point out that, in a modern economy, the minimum standards laid down in TRIPS will bring benefits by creating the incentive structure necessary for knowledge generation and diffusion, technology transfer and private investment flows. Others stress that intellectual property, especially some of its elements, such as the patenting regime, will adversely affect the pursuit of sustainable development strategies.

### **1. Development Prospects and the Challenge of Access in the Information Economy**

There has been a significant amount of academic and public commentary about disproportionate levels of access to the Internet between developed and other countries and the implications of this "digital divide" for economic development. Undoubtedly, access to the foundational infrastructure of the information ages is indispensable for exploiting the prospects of new technologies for development.<sup>7</sup> Thus far, analyses of the digital divide reflect an evolutionary trend. In initial evaluations by scholars and policy makers, the challenge of "access" focused primarily on the relative lack of access to

---

<sup>7</sup>There is widespread consensus on this point. For a general discussion, see Patrizia Fariselli, *E-Commerce for Development: A General Framework*, in Andrea Goldstein and David O'Conner, *Electronic Commerce for Development*, 36-39, OECD (2002).

computers.<sup>8</sup> This aspect of the digital divide was also noted as a significant problem as evidenced by disproportionate access rates in urban and rural areas, and along social, ethnic and gender distinctions. However, as Moore's law<sup>9</sup> has taken effect, access to computers and related complementary goods has significantly improved in the developed world. The available evidence suggests that there is already some improvement at the margins in higher-income. It seems clear, however, that continued growth in access to computers will require innovative organizational models in addition to strategies to increase overall income so that the vast majority of citizens are empowered to purchase the necessary hardware and software.

Next, concerns about the digital divide directed focus to the telecommunications substructure of the Internet and the need to enhance competition in this industry. In most countries, the complex relationship between telephone service providers, cable service providers and the rise of Internet Service Providers (ISPs) has given rise to a variety of pricing models to sustain differences in the market structure. Pricing strategies permeate and fundamentally affect the problem of access. To the extent that cost remains an integral part of the access conundrum, competition in the market for services that are related to Internet use is important. National ISPs generate roughly 44% of total revenues in the industry. As technologies interface and combine features of old services and new functions (such as voice over Internet protocol), distinctly regulated services converge thus creating opportunities for monopolistic organizations to emerge. The pricing implications of inadequate competition in the adjacent technologies to Internet functionality constitute another important aspect of access limitations to the information economy. A third level of the digital divide involves increasingly high barriers to content available on the Internet. Expansive intellectual property laws increasingly enclose the vast amounts of information places on the Internet through the deployment of copyright laws, as well as technology through digital rights management schemes that are protects by quasi-copyright regimes such as the infamous Digital Millennium Copyright Act (DMCA). The seemingly inevitable protection of non-original information databases through sui generis proprietary rights further portends a future where access to the most fundamental tools of the information economy will be increasingly problematic as well as economically costly. The enclosure of basic tools required for meaningful access is evident both in the scientific arena as well as in traditional copyright and cultural industries. The cumulative cost for each level of access hardware, inadequate

---

<sup>8</sup>Allen S. Hammond, *The Telecommunications Act of 1996: Codifying the Digital divide*, 50 FED. COMM. L.J. 179, 196 (1997) (noting that the high price of computers prevents low-income households from owning them).

<sup>9</sup>Named after the founder of Intel Corporation, Moore's law states that the number of transistors on a chip doubles every 18 to 24 months. This would result in an expected \$10 billion cost reduction in the first half-century of the computer age. The result is simply that costs to consumers are very low and will continue to decrease. Gordon Moore, *Cramming More Components On to Integrated Circuits*, ELECTRONICS, Apr. 19, 1965, at 114.

competition and content requires simultaneous, multi-faceted and strategic policies aimed at addressing the rules that create and sustain the access problem. As is now more appropriately appreciated, the digital divide is a dynamic phenomenon.

The various manifestations of the digital divide suggest something incredibly important for public policy initiatives—the divide is a self-sustaining negative externality that will not be constrained or eliminated unless the justifications behind the regulatory policies that influence access on the various levels are restructured to accommodate public welfare interests, including the need for competitive balance in innovation regulation. There is currently no general consensus about the economic significance of the Internet with respect to productive activity. Some economists suggest that the Internet is not as revolutionary as other historical technological breakthroughs such as the radio or television. Others argue that information technologies and the ubiquitousness of the network have created an unprecedented opportunity to create wealth and to fundamentally transform old economic paradigms.

This debate is likely to continue for some time and only in hindsight can the ongoing impact of the Internet be assessed more accurately. As with most things, it is likely that the truth of the matter is a dynamic located between both extremes. Conventional markets are unlikely to disappear entirely, and there can be beneficial synergies as well as efficiency trade-offs between electronic and conventional commerce.<sup>10</sup> Nonetheless, the following examples of noticeable economic effects of the Internet for new markets have been offered: (i) dramatic reduction in transaction costs; (ii) improved performance of markets; (iii) the creation of markets too difficult and expensive to create without technology; (iv) less costly coordination of economic activity both within firms and in larger economic settings. The impact of these factors has been felt in peer to peer (P2P) interactions, business to business (B2B) interactions and business to consumer (B2C) interactions. There is considerable evidence that the strong economic growth of the late 1990s can be attributed to improved productivity gains in the information technology sector as well as increased and innovative use of information goods and services. All this took place in a framework of deregulation, private sector leadership, open publication and sharing of technical information and knowledge, and an impressive collaboration between scientists in different countries. Undoubtedly, information technologies leveraging the Internet and the proliferation of personal computers have ushered in new market structures, new models of competition, and new products. The initial commercial uses of the Internet involved merely a transfer of “brick and mortar” services or products to the network and it was unclear whether profits could be sustained with this strategy.

---

<sup>10</sup>E. Brynjolfsson and B. Kahin, (eds.) *Understanding the Digital Economy* (1999).

**Table 1.** Possible E-Commerce and Information Sharing Relationships

	Government	Business	Consumer	Employee
Government	G2G	G2B	G2C	G2E
Business	B2G	B2B	B2C	B2E
Consumer	C2G	C2B	C2C (peer to peer)	C2E
Employee	E2G	E2B	E2C	E2E

Source: David O’Conner (2002)<sup>11</sup>

However, simple applications such as email, websites or providing information on-line to customers would have an extraordinary effect in the market. At a minimum, these applications will inevitably up-grade quality and efficiency in the provision of services. Enhanced communications facilitate efficient decision making processes, promote time-savings and streamline the production process. Initial empirical evidence suggests that there are measurable gains even from the simplest applications of information technologies with significant returns to domestic firms. For example, some firms in the automotive components sector initially used the Internet to process orders, manage inventory, marketing and other inter-firm functions. While not entirely innovative, this sort of “transfer utility” effectively takes advantage of the transaction cost reductions that characterize economic activity on the Internet.<sup>12</sup> These uses require the most minimal capital investment, mainly in hardware and network access, but promises net returns to domestic firms.

A firm’s use of the Internet, for example, can heighten demand by facilitating growth of a larger customer base through advertising and marketing via the company website. There is added value if the website is enhanced to facilitate customer service and other exogenous business development such as automated transactions. It is important to note, however, that there is a difference between using the Internet to create value and the ability to capture such value. The latter may well depend on macroeconomic conditions that include the presence of well-functioning institutions and a functioning telecommunications industry. The nature of the Internet allows firms to access and utilize technology (host computers) for some applications (e.g., websites).

---

<sup>11</sup> David O’Conner, The Prospects and Challenges of E-Business for the Automotive Components Sector: Preliminary Findings from Two Benchmarking Clubs, in Andrea Goldstein and Electronic Commerce for Development

<sup>12</sup>Michael D. Smith, Joseph Bailey, Erik Brynjolfsson, Understanding Digital Markets: Review and Assessment, in Erik Brynjolfsson and Brian Kahin, Understanding the Digital Economy (2000).

This circumvents, somewhat, the infrastructure barriers. However, more meaningful access to telecommunications cannot be avoided in order to fully exploit the potential of the information economy. Studies have shown that better telecommunications infrastructure is both an outcome of economic growth but also an input as well.

The causal relationship between the Internet and economic growth appears well established.<sup>13</sup> It should be noted, however, that synergistic benefits and dynamic welfare effects of information technologies in the domestic market is highly dependent on the existence of a critical mass of users of information technology in a sector or industry. In terms of the value of the network, a single firm's investment in information technology can be a dead weight loss where the rate of connectivity in the relevant sector is low. Further, participation in global value chains requires effective integration of information technologies in local firms. Export oriented firms are particularly imperilled in this new economy if they lack access to networks. As sectors experiment with new business models based on the Internet, the reorganization of the global supply chain in response to technological innovation will inexorably require firms to integrate information technologies in domestic operations, even if just to avoid the very real threat of becoming irrelevant. Thus, what is important is for firms and countries to evaluate sectors where information technologies offer opportunities to enhance comparative advantage, add value to existing products and services, and in other ways facilitating participation in the global value chain.<sup>14</sup> With respect to the global value chain, the importance of e-commerce to economies is reflected by data about the proportionate share of GDP attributable to growth of the information technology sector. Telecommunications availability is clearly a critical factor in evaluating prospects for using information technology to facilitate economic goals in the digital age. Despite the emergence of new technologies for Internet access, the fact still remains that most individuals access the Internet through telephone networks. As mobile technology evolves, important possibilities in overcoming the significant problem of Internet access will likely emerge. There is already some evidence of the importance of mobile phones in economic and social empowerment in rural communities. If mobile phone use surpasses access and use of traditional telephones and wireless application protocols, it would seem that the possibility of mobile Internet access is a more promising prospect for enhanced Internet use. As technology evolves, there is no doubt that Internet access through a variety of means, mobile, cable, telephone, satellite and wireless, will be of great importance in facilitating access to the information economy. Indeed, competition between these services will be vital for ensuring pricing options that are feasible for consumers. Despite data about Internet penetration rates that may suggest that short-term prospects are bleak, the fact is that economic opportunities in the information economy extends to activities

---

<sup>13</sup>The Networking Revolution: Opportunities and Challenges for Developing Countries, InfoDev Working Paper, World Bank (2000) available at <http://www.infodev.org/library/working.htm>.

<sup>14</sup>BRIE-IGCC, Tracking a Transformation: E-Commerce and the Terms of Competition in Industries (2001).

beyond those empowered by information technology. Two key factors are worth considering. First, exploitation of cheap but highly skilled labor is highly dependent on domestic regulation. The current regulatory environment for outsourcing is vulnerable to protectionist pressures particularly in the current economic downturn. Second, total factor productivity, a robust measurement of economic growth, is likely to be significant chiefly via meaningful diffusion and access to technology for domestic industries. Internet access, use and the development of local content and content providers remain important regulatory issues for countries committed to pursuing development opportunities. The overall data reflects some growth in Internet access and use in developing countries, suggesting that the Internet and its associated information technologies can offer important economic development opportunities in the current environment notwithstanding comparatively low levels of access.

**Table 2.** Total Number of People Age 2 and Older with Internet Access via Home PC

	<b>Number of People with Internet Access (in Millions)</b>	<b>% of World's Internet Population</b>
<b>US</b>	168.1	29
<b>Europe</b>	135.3	23
<b>Asia &amp; Pacific</b>	75.5	13
<b>Latin America</b>	14.3	2
<b>Rest of World</b>	186.8	33
<b>Total</b>	<b>580</b>	<b>100</b>

Source: <http://www.netratings.com><sup>15</sup>

### **1.1. Development of the Internet and the Role of the Regulatory Environment in Innovation and Technology Diffusion**

In addition to constituting a unique marketplace where buyers and sellers interact, there are two possible categories of economic activity attributable to the Internet: (1) business activity related to the development of complementary hardware and associated tools that facilitate access and use of the network; (2) business activity associated with the development of new goods and services. These can be generally referred to respectively as “complementary markets” and “innovation markets”. Ideally, innovation markets create multiple secondary markets that, after consolidation, establish the foundation for subsequent generations of innovation. The Internet confirms this process of technological evolution and its spillover effects. There are many existing accounts of the history and development of the Internet. This section briefly summarizes the

---

<sup>15</sup> Nielsen NetRatings Global Internet Trends Q4 2002, available at <http://www.netratings.com>



significant moments emphasizing the regulatory and technological environment that facilitated the growth of the network system and ensured its establishment as the engine of the information age. It is important to note at the outset that there can be no “finished” account of the development of the Internet. The Internet continues to benefit from ongoing technological innovation and adaptation. Nonetheless, there is an important technological genesis of the information revolution and briefly identifying the historical framework provides an important context in which current regulatory initiatives can be evaluated. The origins of the interactive system of linked computer networks now commonly known as the “Internet” dates back to the 1960’s when a decentralized computer communications network was developed to facilitate electronic communication and cooperation among a group of scientists, government defence contractors, and universities. This initial endeavor was enlarged over the years by the development and adoption of the Transmission Control Protocol/Internet Protocol (TCP/IP) as the dominant standard of the network system. Open access to the specifications of Internet protocols has been identified as a key factor in the rapid growth of the Internet. The TCP/IP specifications were put in the public domain. Other ideas essential for creating networks were also widely shared among network scientists and researchers, first via regular mail and then, as technology developed, through online delivery.<sup>16</sup>

- In sum, four important developments made possible the rapid adoption of the network for commercial transactions and a wide range of social activity:
- The non-proprietary approach to innovation and information;
- The standardization of the Internet networking computer protocol;
- The privatization of the network as deregulation made it possible for independent telecommunications companies to provide connectivity;

The increasing availability and use of personal computers ensured a synergy between the underlying infrastructure of the Internet, and software applications for a number of different uses. Additionally, a system emerged for organizing “domains” of specific activity on host computers. Domain names typically denote the nature of activity of a particular Internet user. By most accounts, the commercial domain (“dotcom”) has been the fastest growing segment of the Internet. One source states that the commercial domains had almost twice as many hosts as the educational domain, Internet businesses and the commercial domains accounted for more than six times as many hosts as the educational domain. With respect to the nature of commercial activity on the Internet, it is interesting to note the industries most affected by innovations in communication technologies. These industries are associated primarily with data processing such as in insurance, financial markets, health care management, electronic shopping, auction systems, and business cryptography. As will be discussed later, these are the same areas

---

<sup>16</sup>Andrew Jablon, Note, “God Mail”: Authentication and Admissibility of Electronic Mail in Federal Courts, 34 A M. C RIM. L. R EV. 1387, 1390 (1997) (discussing early adoption of electronic mail as means of sharing information among scientists).

in which business method patent applications predominate. Proprietary protection of databases will also have an impact in these markets. Further, as noted earlier, forms of commercial activity at initial stages of electronic business and commerce are typified less by innovative strategies than by the use of automated systems and technology to enhance existing business models, products and services. Analysts and scholars do, however anticipate the emergence of transformative applications of information technologies to generate new forms of businesses and entrepreneurial activity. One of the most active commercial applications of the Internet involves auction systems/other electronic shopping activities and financial services.

## **2. Computer software protection, computer databases & e-commerce**

Traditionally, patent law in most developed countries has focused on industrial inventions and devices. Methods of doing business, explicitly excluded from patent ability in the EPC, were not statutorily precluded from patent protection law but were perceived to be patent-ineligible under a judicially derived “business method exception” to patent ability. Business method patents can be described using three categories. Business method patents can be described using three categories.<sup>17</sup> First, there is the computer business method category, which includes patent claims that are associated with using computers to perform traditional business functions, which were previously done without computers. A second category is the e-commerce category, which deals with patent claims that involve Internet applications and e-commerce, such as a patent granted for reverse auctioning on-line, or the one-click order patent owned by Amazon.com. A third category is simply other new business methods outside of software or the Internet areas. These include non-technical fields such as coupon distribution, advertising, insurance, accounting and a number of other such fields where the patent system has not historically played a major role. Indeed, until the recent change of direction, which affirmed patents for business methods, the business community did not really consider patents as a significant factor in the development and accumulation of capital. This is particularly true of small and medium enterprises (SMEs). Congress intervened with amending legislation in an attempt to intervene with amending legislation in an attempt to clarify the scope of business method patents. Most important, there has been concern about the inhibiting effect such patents may have on the development of e-commerce and innovation in the on-line environment. Statistics indicate that e-commerce related business method patents are the fastest growing category of business method patent applications and constitute a significant threat to the digital economy.<sup>18</sup> Additionally, several legislative amendments have been introduced to deal with the policy concerns about “glutting” the patent system and stifling innovation for e-commerce. Following the statistics indicate that business method

---

<sup>17</sup>Jeffrey A. Berkowitz, Business-Method Patents: How to Protect Your Client’s Interests, 8-12 (2002).

<sup>18</sup>The Knowledge Monopolies, THE ECONOMIST, p.76, April 8, 2000.

patents are much more likely to be litigated than any other category of patents. Indeed, in the software patents have had higher litigation rates than non-software patents. The requirements for general patent ability impose some constraints on the practical grant of business method patents. Patents are available for inventions that are susceptible of industrial application, new and that involve an inventive step. To satisfy the definition of “susceptible to industrial application,” the European Patent Convention (EPC) provides that an invention should be capable of being “made or used in any kind of industry, including agriculture.” Explicitly excluded from consideration as an “invention” are the following: discoveries, scientific theories and mathematical methods; aesthetic creations; schemes, rules and methods for performing mental acts, playing games or doing business and programs for computers; presentations of information. These exclusions are applicable only to the extent a European patent application or European patent relates to such subject-matter or activities.

In addition to these exclusions, rules that require that In addition to these exclusions, rules that require that features and in terms that define a technical problem and its solution appear to impede the patentability of business method patents. However, there have been numerous patents granted for software-implemented inventions for business activities and other purposes where the claimed invention satisfies the criteria of being a technical contribution to the art. A technical contribution to the art can be found in a number of things including: increased performance or productivity, a system which enables automated operations of functions that previously could only be done by physical labour, a system with reduced costs, and a system which simplifies the steps necessary to achieve a particular result. Such technical contribution will sustain the patentability of a business method innovation before the European Patent Office (EPO). In one decision, the EPO Board of Appeal held that the technical contribution that informs the basis upon which a patent is granted may derive from the problem that is to be solved, the implementation of the solution, and the function or effects of the implementation. This broad and flexible range of possible contributions has resulted in patents being granted by the EPO for innovations in software that have a direct effect on business management or operations (such as business management systems) and those that have an indirect effect on business enterprises simply by enhancing the functioning of a computer system or the ease with which individuals can perform specified functions.

### **2.1. Database Protection: Some Considerations for Development**

Digital data and technologically enabled tools for aggregating, sorting and classifying such data constitutes one of the most significant areas of e-commerce. Most service industries rely significantly on electronic compilations of data. Generally, unoriginal collections of data have fallen outside the purview of copyright protection. In 1996, the EU passed the Directive on the Legal Protection of Databases (Database Directive), which established a sui generis form of protection for the contents of databases. Together with extant protection for compilations, which the Directive also harmonized, and a controversial provision, which extends protection of databases to nationals or habitual residents of non-EU countries, data protection under a proprietary

regime has become an important part of the regulatory environment of the information age. Shortly after the EU Directive was passed, a bill directed at creating a similar *sui generis* regime for databases was introduced in the United States Congress. The European model was opposed by several important constituents of the public including scientific organizations, educational institutions and academic organizations. These groups cited the notable adverse effects of a property-based model of protection on scientific research, scholarly activity and education. Internet based enterprises also opposed *sui generis* database protection on grounds that such protection will lead to even greater industry concentration and increase the costs of e-commerce by simultaneously lowering the utility and increasing the cost of search engines. The result would be reduced competition on the Internet due to heightened barriers of entry to e-markets and inhibiting second-generation improvements to existing databases. A series of intense and prolonged negotiations commenced between affected interest groups but despite numerous iterations of the initial proposed legislation, no database protection bill has yet been passed by Congress. However, there are ongoing efforts to secure such legislation at some point in the future. Despite the absence of a formal database law and the absence of an international treaty for database protection, several different legal rules can and do provide a measure of protection for otherwise non-copyright able content. The most prominent of these is the common law of unfair competition or tort of misappropriation recognized in most common law jurisdictions. Additionally, database owners may utilize contractual agreements to preclude users of data from copying or otherwise distributing the data. Such contractual arrangements have been enforced by courts. Further, owners of databases may rely on technological protections legitimized by laws such as the DMCA and ostensibly sanctioned by the WCT, to preclude access to database content. Consequently, securing ratification of these treaties is a strategically pre-emptive move on the part of rights owners. Further, ratification by developing and least may serve to curtail the rise of peer to peer file sharing services whose location outside can raise jurisdictional difficulties for purposes of prosecution for copyright infringement. In theory, a multilateral treaty that requires governments to enforce copyright interests on computer networks will create a legitimate lever to pressure governments in developing and least to take domestic enforcement action. Another noteworthy point is that the minimal levels of use and users in these countries means that there is currently no identifiable “public” immediately affected by these treaties. Consequently, ratification is a politically and legally cost less gesture.

### **3. Development opportunities and strategies**

Successful utilization of the benefits of the information age requires a dynamic balance between multiple policy elements including the regulatory environment, macroeconomic strategies in areas such as human capital development, and the effect of intellectual property development, and the effect of intellectual property history of the Internet illustrates, the regulatory environment is a critical component of both the physical infrastructure of the network that empowers applications of software for the information economy, as well as the macroeconomic environment in which the

development, use and dissemination of products and services take place. Indeed, economic and empirical studies of the contributions of information technology to growth indicate that mere capital investment in the technological infrastructure is insufficient. Such investments must be accompanied by the willingness of firms to adjust organizational structures to new technology-empowered methods,<sup>19</sup> the willingness and possibility of introducing labour to new systems of production and management, the development of appropriate regulations regarding education, employee mobility, and competition between firms. The limited gains from investments solely in Internet infrastructure point squarely to the relatively high importance of balance in the rules that govern productive and consumptive activity online. The chart below illustrates some linkages between intellectual property rights and technology-enabled gains. As illustrated, if not carefully balanced by robust access rights, proprietary rights can erode important benefits made possible by investments in acquiring technology hardware.

### **3.1. Broad Applications of Information Technology**

Information technology has been applied to enhance four major categories of activities: governance, growth and supply/distribution of goods and services, adding value to existing services and the creation of new products and services. The range of activities that can benefit from information technology appears to be unlimited. Specifically, however, the important issues include how information technology can be used to overcome existing barriers in markets such as high transaction costs, inefficiencies in production, distribution and supply, while adding value to existing products and services and also creating new ones. Economists have noted that the failure of credit markets has been a major reason for underdevelopment. The prospects for secure electronic funds transfer may open up opportunities for financing entrepreneurial activity, which is important to stimulate local investment in information products. Investment in physical capital is critical to facilitate the use of new technologies in the production process. Investment in software is also particularly important. For local productivity to benefit from information technology, then, access to equity will be a vital component. Such access may be enhanced and facilitated by financial agreements through business to business (B2B) collaborations<sup>20</sup> or other forms of financing by financial services available through the Internet. Another key factor for growth is the quality of local labour. In this regard, the vast amount of educational resources available on the Internet is a critical resource, as well as by linkages to institutions in developed countries. This extends beyond prospects for formal education. Specialized learning and

---

<sup>19</sup>Eric Brynjolfsson & Lorin M. Hitt, *Beyond Computation: Information Technology, Organizational Transformation and Business Performance*, J. E CON. P ERSP. 30, Fall 2000.

<sup>20</sup>It is important to note that B2B e-commerce currently accounts for the largest percentage of e-commerce volume. See Andrea Goldstein and David O'Conner, *An Introduction to the Debate on Electronic Commerce and Development*, in *Electronic Commerce for Development*, 9-10 OECD 2002.

ongoing informal education can take place through chat-rooms, list serves and other interactive forums enabled by the Internet. While the Internet cannot and should not replace structured educational systems, it is important to point out that the Internet has made it possible to access recent and up to date information about any number of subjects, and to improve the quality of materials currently available. These uses can also have a hortatory effect on the quality of life by improving the quality of general participation in civil society and ultimately, democratic governance and delivery of government services. Information technology can be used to address infrastructural barriers that have hindered traditional supply and distribution chains. However, this benefit only goes to products or services that have no “real time/space” component. In reality, most e-commerce transactions still require physical infrastructure such as a dependable postal service, electricity, phone lines, etc., to function effectively. Only fully digital products are significantly insulated from the need for and dependence on the infrastructural capacity. With respect to developing countries then, it is important to identify how applications of information technology might contribute to economic growth, the particular sectors that would benefit particularly from information technology, and the legal rules that are most closely related to these sectors.

### **3.2. Sectors that would benefit from information technology**

There is no cognizable limitation on how information technology might enhance existing markets for products and services. However, important sectors with relative importance to development and growth that would benefit specifically because of information technology have been identified and studied in a variety of contexts. Specifically, music and education have received attention as areas that could profit tremendously from the benefits of the Internet. With regard to music particularly, the Internet provides an important tool for overcoming the historically significant problem faced by artists and producers, namely penetrating the global market. The viability of the Internet as a marketing and distribution channel for cultural industries has received increased attention by commentators. Much of the attention has been directed at the music industry where have some unrealized comparative advantage. Despite the fact that the Internet and related technological developments have greatly disrupted established markets in the production, distribution and consumption of musical works, particularly these same technologies hold promise for facilitating the development of local artistic talent and strengthening the domestic music industry. As the industry engages in legal strategies to maintain control over existing business patterns that have generated significant revenue, it is likely that artists in all countries will share common interests in how the Internet might alter the current industry paradigm that tilts the power balance generally in favor of producers, not creators of music.

One of the most important development objectives implicated by intellectual property rights is access to education. In preparations leading up to the World Summit on the Information Society, (hereinafter World Summit) education has been listed repeatedly as an important development goal, one for which the Internet offers a uniquely important prospect of success.

At a general level, social education is made possible simply by the virtue of the vast amounts of information available on the Internet. Individual citizens can search, research and gather information freely over the Internet about an infinite amount of subjects and issues. Online communities and the practice of “linking” make topical navigation of the Internet the most common facilitative interaction of the information age. The significant intellectual commons available on the Internet is breath-taking, giving rise to important needs to organize and systematize such information. There are also the unavoidable issues about the legitimacy and accuracy of information available on the Internet. Yet, even in this respect, there are various “clearinghouses” and business models using search engines that have emerged to provide some organizational structure to Internet content. In addition to social education, formal education is also a highly valued feature of Internet viability for development goals. Several academic institutions have already forged alliances with educational institutions in developing countries to provide educational course materials, to share ideas and research and to engage in distance education. The Open Course Ware (OCW) initiative launched by the Massachusetts Institute of Technology (MIT) provides a leading example of how the Internet can serve this important development goal. The OCW is explicitly premised on the ideal of communal sharing of intellectual works by “providing a new model for the dissemination of knowledge and collaboration among scholars around the world, and to contribute to the shared intellectual commons in academia... In this innovative approach to education in an online environment, OCW offers free and open access to course materials created by instructors at MIT. The course resources are voluntarily submitted by instructors. While the OCW is not a distance education program in the sense that access and use of the materials is not a means to earn a degree or certification, it nonetheless has a powerful appeal for developing countries whose institutions lack the economic resources to educate students and to promote scholarship by instructors. In other words, while sharing course materials has been a contentious issue for a variety of reasons, such an open approach to educational content is precisely what is most direly needed. Indeed, course sharing projects are a vital part of maintaining a real academic common on the Internet while at the same time building a global knowledge value chain that can benefit. There is also further concern about the diversity of cultural content in course sharing projects. In a truly open collaborative project, the commons is enriched by both access and deposit. In other words, ideas and expressions should also be encouraged and efforts should be made to promote an educational common that benefits from creativity in different cultural contexts. In this regard, the OCW license permits modifications and adaptations so long as the derivative work is also licensed freely and openly on the same terms as OCW works. In this and many other, OCW is modelled along lines similar to the Open Source movement in software.

#### **4. The information technology and intellectual property interface**

Despite indications of commitment to support the integration of information technologies into development programs, most of the activities undertaken in light of these commitments have failed to examine the important relationship between the

regulation of information technology and global rules for intellectual property protection. As some scholars have argued, the information economy may require different rules with respect to the protection of content or even hardware, than the traditional economy. The contested boundaries between trademarks for domain names, business method patents for Internet businesses, and copyright protection for content all threaten precipitously to recreate high margins of difference. The irrepressible move to create a global property rights system in data and databases, both of which are the primary constitutive elements of the Internet and associated applications,<sup>21</sup> together with the existing multilateral agreements create an unhealthy environment for development. In this “back to the future” paradigm, will be bound by international agreements that constrain their efforts to access the building blocks of economic growth which consist of access to content and competitive opportunities to create new markets and new products. It is important to note that this problem is not limited; there continue to be conflicts and heated negotiations between stakeholders about the nature and extent of rules designed for social and economic use of the information. Of immediate strategic importance is the need to reconcile their identifiable ICT priorities with their participation in intellectual property agreements. Inadequate appreciation of the relationship between development goals that require access to the tools of the information age, and global agreements regarding intellectual property rights, can potentially limit the policy space within which countries can pursue their development agendas. Specifically, consider the impact of accession to the WIPO Internet treaties on their development goals. The point is not that copyright rules are detrimental to development efforts, but instead that the unbridled extension of these rules to the Internet environment, without corresponding limitations to facilitate legitimate public policy objectives will unnecessarily handicap identified development strategies.

#### **4.1. Appropriating the Benefits of the Information Age**

The Internet offers a dynamic set of technological tools, and is the subject of experimental regulatory frameworks and legal rules. It is unlikely that anything firm or consistently predictable will emerge any time soon to govern this digital space. For developing countries this presents both opportunities and challenges. Appropriating the benefits of the information age is directly related to how investments in information technology are influenced and supported by regulatory frameworks that promote innovation, access and use. In addition to capital investments in information technology, should undertake to invest in the necessary macroeconomic policies that will facilitate an environment where the domestic population is able to adapt to the existence of the Internet, and to encourage entrepreneurial uses of the different opportunities that information technology can offer to deal with existing distribution, dissemination and communication problems that bedevil markets.

There are also risks associated with a static approach. In most other areas of

---

<sup>21</sup>“Databases—the Next Copyright Battle?” Reuters September 5, 2003.



technological development, countries have been left behind both in terms of capacity and infrastructure, but also in terms of their participation in the formulation and negotiation of legal rules that are then implemented globally or that have global effect. It is important that strike a balance between free-riding on existing spill over effects of the Internet and participation in global negotiations where rules are being developed that will shape the future of the Internet and hence, the terms on which all countries will participate in an increasingly and irrevocably networked global environment.

## **Conclusion**

Information asymmetries introduced or supported by legal rules such as intellectual property rights, or regulatory policies affecting competition in the provision of telecommunications services, can skew the competitive advantages that information technologies offer. The following points summarize important factors that policy makers should keep in mind in formulating information policies with a development focus.

(a) Despite the emphasis on the need for a strong telecommunications infrastructure for greater physical access to the Internet, the development of third generation Internet technologies through satellite suggests that in a short period of time even this major problem may not be as significant a barrier for access to the Internet. An important task, then, is to develop guidelines concerning how much resources should be invested in adapting to the current Internet state of art given the dynamic rate of innovation in communications technology. These are questions that require careful and sustained empirical analysis to ensure that the digital divide does not remain a permanent feature of the information age.

(b) Exploiting the potential of the Internet to facilitate development objectives requires access to hardware (computers), software and content. Innovation, competition and deregulation in the telecommunications industry will enhance the opportunities for access to hardware by citizens. Intellectual property agreements have important implications for access to software and digital content. In the context of software need to explore alternatives to proprietary regimes, the most important being the Open Source model which has proven to be a dynamic and, in some instances, more effective model of software development. Open Source model is not just beneficial for improving access to software, but also for the opportunities it offers to facilitate the training of domestic software engineers, and the relatively low cost of complementary technologies.

(c) Business method patents can have inhibiting effects on competition in new markets and the opportunities made possible by information technologies. Most economic analyses of business method patents suggest that such patents have an inimical effect on competition and organizational innovation.

Finally, there has been caution expressed by some scholars and commentators about the unbridled optimism and expectation of what information technology can accomplish. It is certainly the case that technology does not represent the exclusive or even primary solution to the multifaceted challenges of underdevelopment. However, the ubiquitousness of information technologies provides a universal context to examine the backward looking question of how to rethink approaches to existing impediments to

economic growth, and the forward looking question of how new technology can be deployed to generate new revenue streams and stimulate entrepreneurial activity.

## References

- Andrés, L., Cuberes, D., Diouf, M., & Serebrisky, T. (2010). The diffusion of the Internet: A cross-country analysis. *Telecommunications Policy*.
- Barro, R., & Sala-i-Martin, X. (1995). *Economic growth*. New York: McGraw-Hill.
- Caselli, F., Esquivel, G., & Lefort, F. (1996). Reopening the convergence debate: A new look at cross-country growth empirics. *Journal of Economic Growth*.
- Colecchia, A., & Schreyer, P. (2001). The impact of information communications technology on output growth. STI Working Paper 2001/7, OECD, Paris.
- Hardy, A. P. (1980). The role of the telephone in economic development. *Telecommunications Policy*.
- Jorgenson, D., & Stiroh, K. (2000). Raising the speed limit: US economic growth in the information age. OECD Economic Department Working Papers No. 261.
- David O'Conner, The Prospects and Challenges of E-Business for the Automotive Components Sector: Preliminary Findings from Two Benchmarking Clubs, in Andrea Goldstein and *Electronic Commerce for Development (2002)*
- Retrieved from [/http://www.oecd-ilibrary.org/economics/raising-the-speed-limit\\_561481176503S](http://www.oecd-ilibrary.org/economics/raising-the-speed-limit_561481176503S).
- Rodrik, D., Subramanian, A., & Trebbi, F. (2004). Institutions rule: The primacy of institutions over geography and integration in economic development. *Journal of Economic Growth*, Oliner, S., & Sichel, D. (2000). The resurgence of growth in the late 1990s: Is information technology the story? *Journal of Economic Perspectives*.
- Nielsen NetRatings Global Internet Trends Q4 2002, available at <http://www.netratings.com>
- Kuznets, S. (1966). *Modern economic growth: Rate, structure and spread*. New Haven: Yale University Press.
- Samarajiva, R., & Lucas, R. (2010). Improving measurement of progress toward Target 10 of the World Summit on Information Society (WSIS). Paper presented at the Eighth World Telecommunication/ICT Indicators Meeting (WTIM).
- Gruber, H., & Verboven, F. (2001). The evolution of markets under entry and standards regulation—the case of global mobile telecommunications. *International Journal of Industrial Organization*.
- Gruber, H., & Koutroumpis, P. (2010b). Mobile communications: Diffusion facts and prospects. *Communications and Strategies*.
- Gruber, H., & Koutroumpis, P. (2010a). Mobile telecommunications and the impact on economic development. Paper presented at the 52nd Economic Policy Panel Meeting, Einaudi Institute for Economics and Finance (EIEF).
- “Databases—the Next Copyright Battle?” Reuters September 5, 2003.
- It is important to note that B2B e-commerce currently accounts for the largest percentage of e-commerce volume. See Andrea Goldstein and David O'Conner, An

Introduction to the Debate on Electronic Commerce and Development, in Electronic Commerce for Development, 9-10 OECD 2002.

Eric Brynjolfsson & Lorin M. Hitt, Beyond Computation: Information Technology, Organizational Transformation and Business Performance, J. E CON. P ERSP. 30, Fall 2000.

The Knowledge Monopolies, THE ECONOMIST, p. 76, April 8, 2000.

Jeffrey A. Berkowitz, Business-Method Patents: How to Protect Your Client's Interests, 8-12 (2002).

Andrew Jablon, Note, "God Mail": Authentication and Admissibility of Electronic Mail in Federal Courts, 34 A M .C RIM. L. R EV. 1387, 1390 (1997) (discussing early adoption of electronic mail as means of sharing information among scientists).

BRIE-IGCC, Tracking a Transformation: E-Commerce and the Terms of Competition in Industries (2001).

The Networking Revolution: Opportunities and Challenges for Developing Countries, InfoDev Working Paper, World Bank (2000) available at <http://www.infodev.org/library/working.htm>.

# TRENDS AND CHALLENGES OF FOREIGN DIRECT INVESTMENT IN THE TIME COVID-19

Zdravko Tomić<sup>22</sup>

**Summary:** This paper analyzes the foreign direct investment (FDI) flows in the context of the COVID-19 virus pandemic, with special reference to the countries of the Western Balkans. The motivation of this paper stems from the strong effect of the pandemic on the world economy, and thus the FDI trends. As the Covid-19 pandemic has disrupted FDI flows around the world, there has been an inevitable sharp decline in global foreign direct investment flows, with uncertain prospects in the coming months. The paper pays special attention to the analysis of FDI inflows and outflows, since the outbreak of the pandemic, which have significantly changed downwards compared to the period before the outbreak of the COVID-19 virus pandemic. The aim of this paper is to look at the consequences of the pandemic on FDI flows in the world and the region, as well as to point out future trends, which can be expected in the coming period. The contribution of the paper is also reflected in the identification of new approaches and measures to improve the investment environment for FDI, which could attract the attention of economic policy makers.

**Key words:** foreign direct investments, pandemic, developing countries, government policies, acquisitions.

**JEL classification:** E22, F21

## Introduction

Foreign direct investment is an integral part of the international economic system, which is different from other resources of financing, because they are motivated by long-term plans of investors making a profit. Foreign direct investments, as one of the most important promoter of economic growth, have a very significant role in the process of transition from the former socialist to market economies. The reasons are foremost, insufficient availability of domestic investments, the need of the technical base improvement and extension of the market relationship with developed countries providing foreign direct investments. In this moment, foreign direct investment is the biggest developmental chance of companies from transition countries. Precisely, it is the only form of international movement of capital, which could accelerate economic growth, move the production, increase employment and raise the living standard.

---

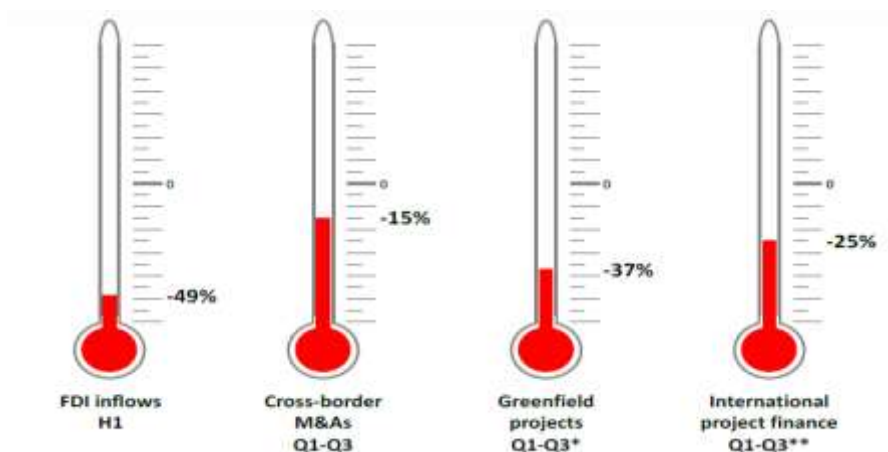
<sup>22</sup>PhD student, Belgrade banking academy, GS1 Montenegro, Podgorica, Montenegro; tomicz978@gmail.com

The pandemic is pushing the global economy into the biggest recession since World War II, so many companies, given the reduced current profits, are not thinking about expanding their capacity and making new investments. In many developing countries, FDI is a key driver of economic growth and a major source of financing current account deficits. Also, FDI has the potential to strengthen the economic resilience of these countries during the crisis and support employment growth and economic transformation through the recovery phase.

### 1. Foreign direct investment flows in the time of COVID-19

Global FDI flows fell 49% in the first half of 2020 compared to 2019, due to the economic fallout from COVID-19<sup>23</sup>.

**Figure 1. Global investment thermometers 2020 Q1-Q3**  
(Per cent change vs 2019)



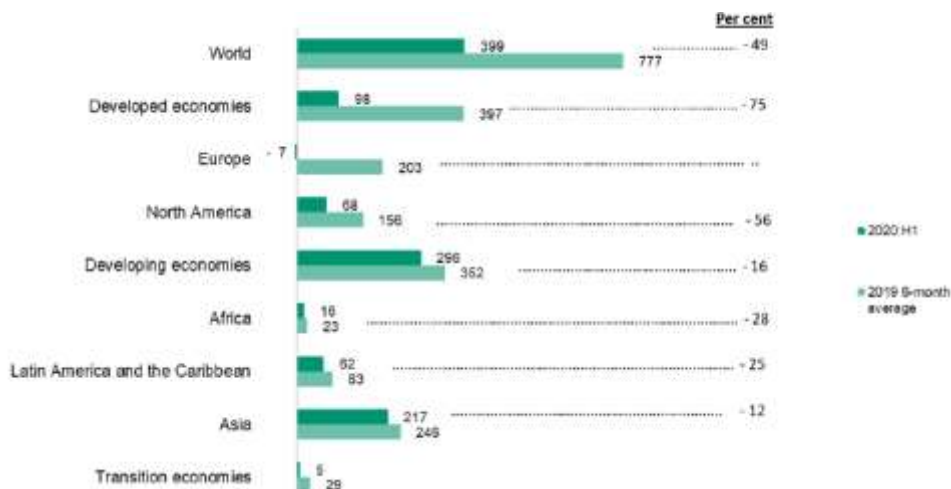
Source: Global Investment Trends Monitor, No. 36.

Developing economies saw their FDI flows decrease by 16%. Despite the 2020 drop, FDI remains the most important source of external finance for developing countries. In the first half of 2020, FDI flows to the transition economies fell sharply by 81%. The decrease in FDI was more limited in Serbia (-24%)<sup>24</sup>.

<sup>23</sup>UNCTAD (2020), *Global Investment Trends Monitor, No. 36*. Geneva: UN.

<sup>24</sup>UNCTAD (2020), *Global Investment Trends Monitor, No. 36*. Geneva: UN.

**Figure 2.** FDI inflows by region 2020 H1 vs 2019 6-month average  
(Billions of US dollars and per cent)



Source: Global Investment Trends Monitor, No. 36.

COVID-19 has highlighted significant weaknesses in the global trade and investment landscape. The United Nations forecasts foreign direct investment globally will fall by as much as 40% this year due to the coronavirus pandemic and continue to slump in 2021. This raises the urgent question of how the pandemic will continue to affect investment making, and how, in turn, it will affect global value chains. In parallel, investment screening is becoming a more topical issue around the world. If the decline in global FDI lasts for a long time, the consequences for developing countries will be serious, so it is realistic to expect that these countries will have a slower recovery.

In recent years FDI in the region mainly went to sectors that have now been savaged by the crises, such as the automotive and basic materials industries and tourism. A recovery in these sectors that takes longer than expected would delay planned investments. According to UNCTAD, for 2020 global FDI flows are forecast to be cut by up to 40%, bringing them to the same nominal level as in 2005. Apart from Kosovo, all Western Balkan countries are expected to see a major slowdown in FDI inflows in 2020. The biggest declines are expected in Serbia and Montenegro, with Albania and North Macedonia not far behind. BiH is expected to see the smallest cut due to announced investments in energy and road infrastructure. Only Kosovo is likely to see an increase in FDI; there, large investments in energy and mining were made just before the pandemic broke out. However, if the pandemic is prolonged, it could amplify capital outflows from emerging markets like those in the Western Balkans. Such a deterrent to investment would constitute a serious threat to Montenegro, Albania, and Serbia, which rely on FDI to finance their large current account deficits. The economic disruption caused by COVID-19 has also made attracting and retaining FDI much more difficult as

both sectors attractive to FDI and foreign investors have been highly affected. In 2019, most FDI went to real estate (83%) and construction (12%); manufacturing and tourism, the sectors with the highest growth potential, received relatively little. The fact that these sectors have been hard hit by the crisis will make them even less attractive to investors. Moreover, the pandemic is also affecting the home countries of significant FDI partners, especially Italy, Germany, Austria, and the US. For Albania, more than 40% of FDI comes from the EU and almost 10% is from Italy, one of the countries most affected<sup>25</sup>.

## **2. Attracting foreign direct investment during Covid-19**

Support for businesses has not been the only policy response to the pandemic, some governments introducing changes to foreign investment rules over recent months. Among developed economies, the European Union introduced new guidance on FDI screening in March 2020, that emphasizes protecting strategic health-related industries. Since lockdown began, governments in Australia, Canada, France, Germany, India, Italy, Japan, Poland, Spain, the UK and the US have all stepped up their foreign investment screening mechanisms to prevent predatory acquisitions. Countries across the world may be wise to introduce safeguards with immediate effect for sensitive industries from destructive buyouts, but they must do so with a reasonable balance. This indicates that now more than ever, policymakers in developing countries should not make the environment for foreign investment any more restrictive. Supportive and predictable policy conditions for FDI can retain, expand, and attract investment providing much needed capital to support economic recovery.

With many companies seeing reduced profits in 2020, expansions and foreign investment are less of a priority. Meanwhile, as confidence in international travel remains low, and the premium on secure and reliable supply chains grows, more and more foreign investors are likely to bring new investments and projects closer to home. Pandemic has shown companies how truly efficient they are, pushing many to reassess their strategies. In terms of FDI, this may mean a pausing of activity, reshoring or the near-shoring of activities to reduce reliance on their global supply chains. Globalisation could well become more regionalised in the short to medium term.

For example, US hardware company Stanley Black & Decker announced in mid-2019 that it would open a 40,000 square metre manufacturing plant in Fort Worth, Texas, while still planning to continue to operate in China, where the company has 10 factories. The new site will be a manufacturing plant for tools company Craftsman, acquired by Stanley Black & Decker in 2017. In [a press release for the announcement](#), Jim Loree, Stanley Black & Decker CEO and president, said that the company is determined to revitalise this iconic US brand and bring back its American manufacturing heritage.

Technology based sectors to be one of the quickest to recover due to quick demand recovery and ease of adaptability and delivery, followed by the life sciences, professional services and renewable energy sectors. There may be even some sub-sectors that report

---

<sup>25</sup>The World Bank (2020). *Western Balkans Regular Economic Report No.18, Fall 2020: An Uncertain Recovery*. Washington, DC.

higher growth numbers this year compared with last year. E-commerce has seen a surge in demand due to lockdown restrictions and the further development of changing consumer habits. Amazon has been one of the real winners of the pandemic. Its share price has more than doubled since the virus took hold in the western world. It has also announced the opening of many new foreign operations in 2020.

On the other side of the coin, [tourism](#) and manufacturing based sectors such as automotive and aerospace are expected to recover at a lower pace. These sectors are not as adaptable and are negatively correlated to lockdown restrictions.

In addition to a loss of investments, we can expect many investors to halt their plans for expansion. Attracting investors is only the first step towards a successful FDI strategy. Convincing investors to stay and expand their operations is a key factor for achieving economic development goals. To recover post COVID-19, the world and developing countries in particular will require a significant influx of resources. FDI inflows can bring in some of those resources, but governments will need to put conditions in place to help attract and retain productive investments and, more importantly, to maximize their development benefits. This crisis may offer a window of opportunity for governments to reexamine their approaches to investment attraction and retention, with a view towards increasing the embeddedness of FDI within their local economies.

*Seric and Hauge*<sup>26</sup> highlight three focal areas that may require novel policy approaches and thus deserve increased attention from policymakers:

First, measures and supportive mechanisms to help local firms overcome supply side constraints must be introduced and further strengthened. Two types of measures specifically can be fruitful in the longer term in this respect, both for developing stronger linkages between local and foreign firms, as well as to improve competitiveness of local industrial structures: the development of a system of quality certification that is often required to enter into the supply chains of foreign firms, and improvements in digital infrastructure that allow firms to operate remotely both along global value chains and in reaching out to foreign markets. Second, export processing zones, which have been an important tool for attracting FDI in many developing countries, should be designed in a way to link up to the domestic economy. Third, international actions to support countries during and after the pandemic need to pay particular attention to least developed countries. Those countries are facing particularly hard budget constraints and are often limited to implementing policies that focus primarily on investment facilitation measures, simply because they do not have the resources to offer more substantive support to their private sector firms. This is why it is crucial for international organizations and country groupings, like the United Nations and the G20, to respond to their calls for support by advocating and facilitating cooperation in the area of international investment and trade policy.

---

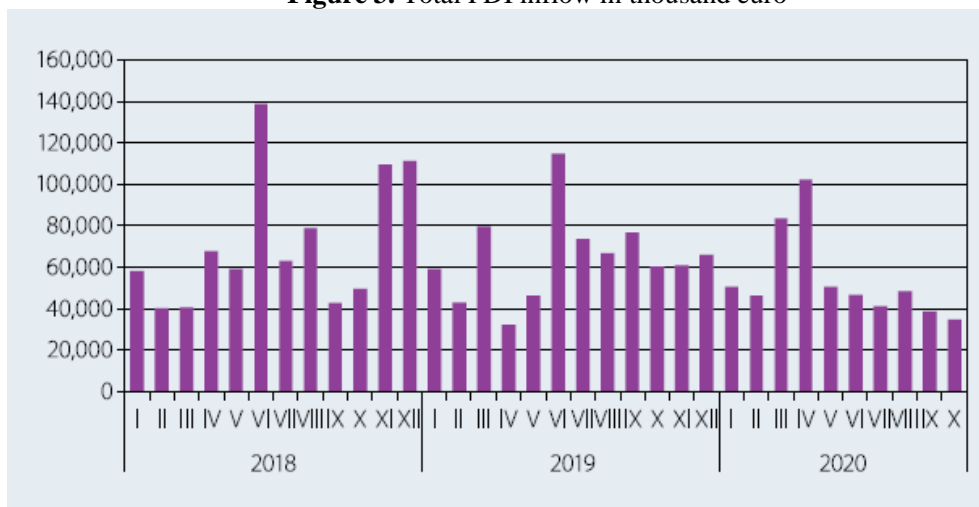
<sup>26</sup>*Adnan Seric* is Research and Industrial Policy Officer at the Department of Policy Research and Statistics (PRS) of UNIDO. *Jostein Hauge* is Research Fellow at the Centre for Science, Technology, and Innovation Policy (Institute for Manufacturing) at the University of Cambridge.



### 3. Foreign direct investment in Montenegro

According to preliminary data, net FDI inflow amounted to 368 million euros in the first ten months of 2020, which is 47% more than in the corresponding period of 2019. The total inflow of foreign direct investments amounted to 541 million euros (fall of 17%), which is the result of a decrease in inflows based on equity investments. The inflow in the form of equity investments amounted to 184 million euros or 34% of the total recorded FDI inflow. In the structure of equity investments, investments in companies and banks accounted for 98 million euros (56% decline), while the inflow arising from investments in immovable properties amounted to 86 million euros (41% decline). FDI inflow in the form of intercompany debt amounted to 326 million euros or 60% of the total inflow, which is 24% more than in the same period of the previous year<sup>27</sup>.

**Figure 3.** Total FDI inflow in thousand euro



Source: Central Bank of Montenegro

New approaches and measures are needed now to improve the investment environment for FDI. The Economic Citizenship Program is a chance for a greater inflow of foreign investment into Montenegro. So far, ten investment projects have already been registered and approved, which enable the obtaining of Montenegrin citizenship.

COVID has changed the way the business world works. A large number of employees are no longer tied to offices, not even to states. This trend is increasingly popular in the world and is known as digital nomadism. Teleworking, by coincidence, is becoming increasingly popular. Forecasts say that by 2035, there will be about a billion digital nomads in the world. Digital nomadic tourism provides an opportunity to turn

<sup>27</sup>Central Bank of Montenegro (2020), *Bulletin of Central Bank of Montenegro for november 2020*, Podgorica.

countries like Montenegro into a year round tourist destination. Montenegro is an excellent base for digital nomads, taking into account the country's strategic position, cost of living and communication infrastructure.

## **Conclusion**

COVID-19 has highlighted significant weaknesses in the global trade and investment landscape. The United Nations forecasts foreign direct investment globally will fall by as much as 40% this year due to the coronavirus pandemic and continue to slump in 2021. Countries across the world may be wise to introduce safeguards with immediate effect for sensitive industries from destructive buyouts, but they must do so with a reasonable balance. This indicates that now more than ever, policymakers in developing countries should not make the environment for foreign investment any more restrictive. Pandemic has shown companies how truly efficient they are, pushing many to reassess their strategies. Globalisation could well become more regionalised in the short to medium term. Technology based sectors to be one of the quickest to recover due to quick demand recovery and ease of adaptability and delivery, followed by the life sciences, professional services and renewable energy sectors. This crisis may offer a window of opportunity for governments to reexamine their approaches to investment attraction and retention, with a view towards increasing the embeddedness of FDI within their local economies. New approaches and measures are needed now to improve the investment environment for FDI.

## **References**

- Central Bank of Montenegro (2020). Quarterly macroeconomic report of the CBM for Q2-2020, Podgorica
- Central Bank of Montenegro (2020). Bulletin of Central Bank of Montenegro for november 2020, Podgorica
- Drahokoupil, J. and B. Galgóczi (2015). Foreign direct investment in eastern and southern European countries: still an engine of growth? in: B. Galgóczi, J. Drahokoupil and M. Bernaciak (Eds.), Foreign investment in eastern and southern Europe after 2008: Still a lever of growth? ETUI aisbl, Brussels
- Kinoshita, Y. (2011). Sectoral Composition of FDI and External Vulnerability in Eastern Europe, IMF Working Paper, 123, Washington, D.C.: International Monetary Fund
- Sanfey et al. (2016). How the Western Balkans can catch up, EBRD Working paper No. 186. London: EBRD
- The World Bank (2020). Western Balkans Regular Economic Report No.18, Fall 2020: An Uncertain Recovery. Washington, DC
- UNCTAD (2020). World Investment Report 2020: International production beyond the pandemic. Geneva: UN
- UNCTAD (2020). Global Investment Trends Monitor, No. 36. Geneva: UN  
<https://investmentmonitor.ai/global/will-covid-19-kill-fdi>

# THE PERCEPTION OF FORMAL AND INFORMAL INSTITUTIONS BY ALBANIAN ENTREPRENEURS AND ITS EFFECTS ON BUSINESS STRATEGY. THE ENTREPRENEURIAL VIEW IN A TRANSFORMING SOCIETY

Rainer Busch<sup>28</sup>

Ermira Qosja<sup>29</sup>

Christian May<sup>30</sup>

**Summary:** Background: In the current study, we present data of a study conducted in Albania analyzing the perception of informal and formal institutions by entrepreneurs. We tested if these perceptions predict preferences for relationship- or market-based strategies of entrepreneurs. Methodology: Our sample consists of 72 Albanian entrepreneurs of SME companies. Hypotheses: Our three main hypotheses were: a) formal institutions will be perceived as relatively weak in Albania, b) if informal institutions are being perceived more as a chance, entrepreneurs will prefer relationship-based strategies and c) if formal institutions are being perceived more as a chance, market-based strategies will be preferred by entrepreneurs. Results and conclusions: When perceiving formal institutions as a chance, the orientation towards a relationship-based strategy decreases and the one towards market-related strategies increases. The perception of informal institutions was only relevant for market-based strategies.

**Key words:** formal institutions, informal institutions, market-based strategies, relationship-based strategies, Albania

**JEL classification:** M13 – Entrepreneurship; O17 – Formal and Informal Sectors; Shadow Economy; Institutional Arrangements: Legal; Social; Economic; and Political

## Introduction

Studies on entrepreneurs in Albania are rare. Only few studies investigate the market behaviour of entrepreneurs. Albania went through a long period of political isolation during the Cold War. After 1948 the country cut off ties with former Yugoslavia. In the following period, Albania tried to ally militarily and economically with the former Soviet Union and thus became a member of the Warsaw Treaty and the COMECON. In 1961, Albania switched to a partnership with China. This did not last though for a long period, since in the following years, the country tried to be independent

---

<sup>28</sup>Professor, Ludwigshafen University of Business and Society, Germany [rainer.busch@hwg-lu.de](mailto:rainer.busch@hwg-lu.de) \*

<sup>29</sup>PhD, European University of Tirana, Albania, Germany [ermira.qosja@uet.edu.al](mailto:ermira.qosja@uet.edu.al)

<sup>30</sup>PhD, Ludwigshafen University of Business and Society, Germany [may@mayconsult.eu](mailto:may@mayconsult.eu)

from alliances. Currently there is a strong interest towards the European Union and Albania is a full member of NATO. According to the United Nations, Albania belongs to the “highly developed countries”. Nonetheless, corruption and legal insecurity remain substantial problems for entrepreneurs. These drawbacks create burdens for formal institutions, including the legal and political system. These factors affect potential investors, business partners and Albanian entrepreneurs in a similar way. In the current study, we investigate the perceptions of formal and informal institutions by entrepreneurs in Albania. Based on the theoretical framework by Helmke and Levitsky (2004) we derived several hypotheses, which were tested in a sample of 72 Albanian entrepreneurs.

## **1. Theory of formal and informal institutions**

In Sociology *Institutions* are clearly being distinguished from organizations. Thus, according to Esser (2000, p.2, translated from German): “An institution is an expectation about the compliance with specific rules, which are mandatory”.

Helmke and Levitsky (2004) emphasize that political scientists focus too much and too often on formal institutions. They underline the interconnection between formal and informal institutions. Research about informal institutions includes norms, interpretation of formal rules, informal rules and behavioral scripts on how to operate within the markets as a consumer, entrepreneurs or manager. Formal institutions rely more on law-based fixed institutions and the legal framework of a society. Unger (1987, 1996) has criticized formal institutions as being doctrinaire and solidified. In the meanwhile, the scientific interest has also turned to informal institutions.

Helmke and Levitsky (2004, p.728) suggest the existence of four types of informal institutions depending 1. the effectiveness or ineffectiveness of formal institutions, 2. on the outcome of informal institutions which can be “convergent” or “divergent” to the one of formal institutions. The first type is the complementary, the second one the accommodating, the third one the substitute and the fourth type the competing.

Types 1 and 2 refer to the precondition that formal institutions are effective. In addition, type 1 refers to convergent outcomes of informal and formal institutions and rules. In this case, informal institutions or rules enhance the effectiveness of formal ones. Type 2 refers to divergent outcomes. Thus, in this case informal institutions “[...] alter the substantive effects of formal rules, but without directly violating them [...]. [Instead] they may enhance the stability of formal institutions by dampening demands for change” (Helmke & Levitsky 2004, p. 729). Types 3 and 4 assume that formal institutions are ineffective.

Type 3 refers to convergent outcomes while type 4 refers to divergent outcomes. For type 3, the authors assume that informal rules substitute the ineffectiveness of formal ones and absorb their deficiencies. Type 4 is relevant to a conflict between informal and formal institutions, while informal institutions tend to exploit the weakness of formal structures.

The functions of informal and formal institutions were also presented by Estrin and Prevezer (2011), who rely on the outlined four-model type of Helmke and Levitsky (2004). As case examples these authors use the BRIC (Brazil, Russia, India, and China).

They argue that China and “good” federal states of India are an example of the “substitution” type, whereas Russia and “bad” federal States of India are examples of the “competing” type. Brazil is being used as an example of the “accommodating” type.

In the current study, we tested how the perception of entrepreneurs differs between formal and informal institutions in Albania. In general, we assume that formal institutions will be viewed as weak and negative. Furthermore, we predict that entrepreneurs will view informal institutions as a functional substitute for the maladaptive and eventually corrupt formal institutions. Moreover, we draw on the differentiation between relation-related versus market-related strategies of companies (Minh, & Hjortsø, 2015; Mirkovski, Lowry, & Feng, 2016; Radulovich, Javalgi, & Scherer, 2018). We hypothesize that the preference for both possible strategies can be predicted by the evaluation of informal and formal institutions. We therefore assume that the perception of formal and informal institutions as chances or inhibiting factors influences the preference of market-related or relationship-related strategies. If informal institutions are being viewed negatively, because of their weakness and unpredictability for entrepreneurs, there will be a shift from market-based to networking- or relationship-based strategies. On the other hand, if informal institutions are being perceived as a chance, entrepreneurs will tend to use relationship-based strategies.

### *Summary of Hypotheses*

- 1.) Formal institutions will be evaluated as weak and negative. It is additionally being assumed that (a.) economic costs imposed by terrorism will be perceived as low (since there is no substantial terrorist activity in Albania); (b.) economic costs imposed by general crime will be perceived as high (because of the high general crime rate) and (c.) economic costs imposed by organized crimes will be perceived as high (relative high importance of organized crime see Cilluffo, & Salmoiraghi, 1999; Raufer, 2018; Schwandner-Sievers, 2003). Items a, b and c are indirect indicators of the perception of formal institutions as weak.
- 2.) The perception of formal institutions as chances and of informal institutions as inhibiting factors will increase the market-based strategies of entrepreneurs.
- 3.) The perception of formal institutions as inhibiting factors and informal institutions as chances will increase the relationship-based strategies of entrepreneurs.

## **2. Empirical Part**

### *Methods*

Seventy-two Albanian (26 female and 44 male) entrepreneurs with a  $M_{\text{age}} = 39,4$  years ( $SD = 11,4$  years) participated in the survey.

Most used items were adopted from a survey study of the World Economic Forum (WEF). These items are documented in the report of the International Monetary Fund (2016). Beside the sociodemographic items, all other items were conceptualized on a 7-point Likert-type response format (cf. Appendix A).

The first 15 items of the questionnaire deal with the strength of formal institutions on specific aspects (cf. for all items Appendix A). We asked for example about the strength of the legal system in protecting property rights, including financial assets (cf. Item 1). Several items deal with different facets of corruption as for example item 5 (how common is it for firms to make undocumented extra payments or bribes in connection with imports and exports in your country?) or item 7 (how common is it for firms to make undocumented extra payments or bribes in connection with annual tax payments in your country?). Due to the outlined situation, we assume that formal institutions were perceived as weak throughout all 15 items (Hypothesis 1). A mean index of these items was used as a first test of hypothesis 1. Furthermore, the 15 items enabled a detailed description of the perception of Albanian entrepreneurs.

The next block of items (16-18) addresses some specific questions including the costs of terrorism (item 16), criminal activities (item 17) and organized crime (item 18) for businesses. We included some additional questions (19-23) in this block which consider the strength and reliability of police services (item 19), corporate ethics of companies (item 20), financial auditing and reporting standards system (item 21), the amount of accountability of the management in corporate governance (item 22) and the extent to which the interests of minority shareholders are protected by the legal system (item 23). The answers were analysed descriptively, in order to become more information on the perception of institutions in Albania. Items 24-27 measure the perception of formal and informal institutions as a chance or as an inhibiting factor. These items were used to test our (main) hypothesis on the influence of the perception on business strategies of Albanian entrepreneurs.

Finally, items 46 and 47 measured the strategic orientation of entrepreneurs, which is differentiated in relationship- and market-based strategies. The remaining items captured sociodemographic variables such as age, gender and information on the firms such as branch, degree of internationalization etc. (cf. Appendix A). The items 1 to 23 were adopted from a study of the World Economic Forum (WEF, 2014).

### *Results*

Hypothesis 1 on the perception of formal institutions in Albania as weak was tested by the calculation of a mean index of items 1 - 15. The range was from 1 (very weak) to 7 (very strong).

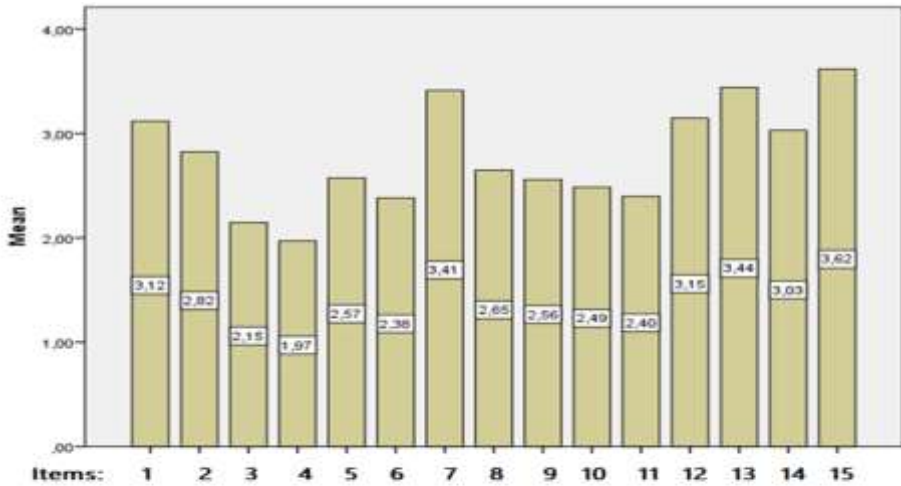
**Table 1.** Weakness vs. Strength of Formal Institutions

**Statistics**

Index formal		
N	Valid	68
	Missing	20
Mean		2,7833
Std. Deviation		,84086
Minimum		1,27
Maximum		4,40

As being displayed in Table 1 the mean value is quite low and the standard deviation is lower than one measurement unit ( $M = 2.78$ ;  $SD = 0.84$ ). This indicates that the formal institutions were perceived as very weak. This is also being underlined by the observation that the means ranged from 1.27 (minimum) to 4.40 (maximum). Consequently, even the most positive overall perceptions of formal institutions were only slightly above the midpoint of the scale. The range of the scales was from 1 (minimum of strength) to 7 (maximum of strength). In an additional analysis, we examined the single items of the 15 items block to detect substantial features of the responses. This descriptive approach revealed that only three aspects were nearby or slightly above the midpoint of the scale (3.5). These items were 7 ( $M = 3.41$ ), 13 ( $M_{age} = 3.44$ ) and 15 ( $M = 3.62$ ). All other items ranged from  $M = 1.97$  to  $M = 3.15$  (cf. Table 2). Thus, bribes in connection with annual tax payments, the efficiency of the legal framework for private businesses in settling disputes and the easiness for businesses to get governmental information were evaluated as less worse, but the means were nearby to the midpoint of the scale, displaying formal institutions as weak. An evaluation of the institutions as weak was observed for the items 4 and 5. Thus, the ethical standards of politicians and bribes in the context of exports and imports were evaluated as the most severe problems presented to the respondents. For an overview of all results cf. Figure 1 and for the wording of the items Appendix A.

**Figure 1.** The means of the items 1-15 measuring the strength of formal institutions (with 1 = very weak and 7 = very strong)



Hypothesis 1 was confirmed and therefore formal institutions were perceived throughout as weak.

According to hypotheses 2-4 the means of the corresponding items showed that terrorism is estimated as imposing relatively low costs (item 16:  $M = 5.52$ ), whereas general crime is evaluated as a more important source of imposing costs compared to terrorism (item 17:  $M = 4.11$ ). Finally, as predicted organized crime is the most relevant factor of imposing costs on business (cf. Table 2).

**Table 2:** Perception of terrorism, general crime and organized crime as factors imposing costs to businesses (1 = very much vs. 7 = not at all).

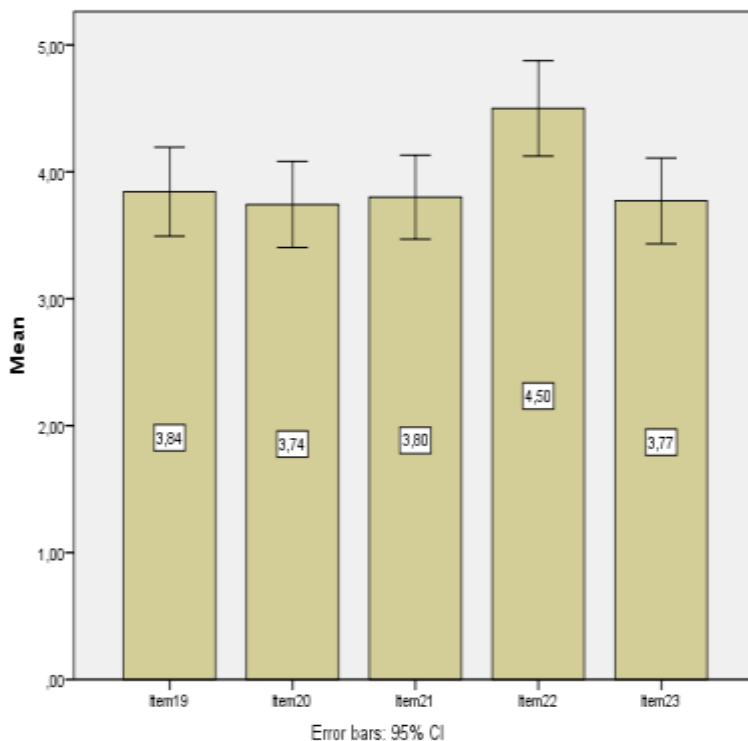
**Statistics**

		Terrorism	General Crime	Organized Crime
N	Valid	72	72	72
	Missing	16	16	16
Mean		5,5139	4,1111	3,8056
Std. Deviation		1,83082	1,81198	1,79702



Items 19-23 were analysed in an exploratory way. The items were: “To what extent can police services enforce law and order in your country?” (item 19); “How would you rate corporate ethics of companies (ethical behaviour in interaction with public officials, politicians, and other firms in your country?” (item 20); “how strong are financial auditing and reporting standards in your country?” (item 21); “How would you characterize corporate governance (the relationships) by investors and boards of directors in your country? “(item 22). ”To what extent are the interests of minority shareholders protected by the legal system in your country?” (item 23). As Figure 2 shows, we observed relatively similar perceptions for all aspects. For these items, we can conclude that none of these aspects were evaluated positively. Only the item on corporate governance related to the accountability of the management toward investors and the board of directors was evaluated more positively than the other four items (cf. Figure 2).

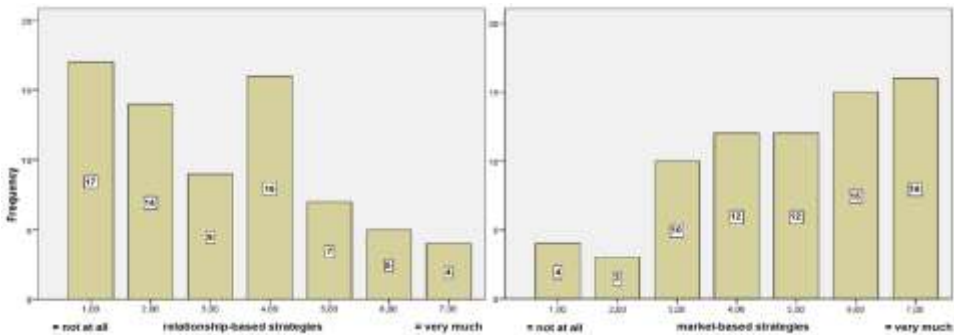
**Figure 2.** Specific aspects evaluated by Albanian entrepreneurs



Furthermore, we tested our main hypothesis on the relationship between the perception of formal and informal institutions and the strategic orientation (market-based vs. relationship-based). We tested if the perception of informal and formal institutions as “chances” and “inhibiting factors” (items 24 - 27) can predict how strong entrepreneurs rely on market-based vs. relationship-based strategies. The mean value for

market-based strategies was higher than the one for relationship-based strategies (cf. Figure 3). The more detailed response behaviour as being shown in Table 4, reflects the tendency towards market-based strategies. Both items show a small but significant negative correlation ( $r = -.297; p = .011$ ). This implies that both strategic orientations are relevant for all entrepreneurs, but the (small) negative correlation shows that entrepreneurs have a preference for one of the two strategies. This preference is however not very strong. Instead, the strategic orientation has to be seen as a mixture of market and relationship-based strategy. For testing hypotheses 5 and 6 we conducted a median-split for the items 24-27. We then conducted two analyses of variance (ANOVA) including the main effects of all four items and the corresponding 2-way interactions. The first included the extent of relationship-based strategies as a dependent measurement and the second included the extent of market-based strategies as a dependent measurement. For relationship-based strategies, we observed no significant main effects (all  $ps > .171$ ). Instead we observed a nearby significant 2-way interaction of item 24 (perception of formal institutions as chances) with item 25 (perception of formal institutions as inhibiting factors),  $F(61,1) = 3.94, p = .052$ . All other 2-way interactions clearly reached no significance all  $ps > .104$  (All  $p$ -values in this article were reported for two-tailed tests.)

**Figure 3.** Reported prevalence of relationship-related and market-related business strategies

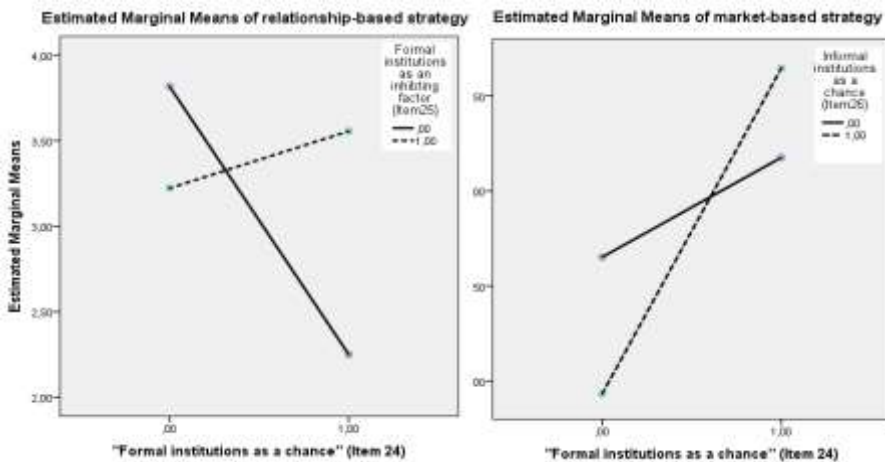


For the relationship-based strategy the observed 2-way interaction can be interpreted in the following way (cf. Figure 4): The indication for a relationship oriented strategy is high, if formal institutions are being perceived as an inhibiting factor, independently of the aspect if formal institutions are perceived (at the same time) as a chance or not. Furthermore, only if formal institutions are being seen as a chance and at the same time not as an inhibiting factor, the indications for a relationship-based strategy is low. Somewhat simplified we can conclude that the crucial factor is to which extent formal strategies were perceived as an inhibiting factor for businesses. A prevalence of market-related strategies is predicted by the perception of formal institutions as a chance

(item 24),  $F(61,1) = 6.85, p = .011$ . Moreover, we observed a nearby significant 2-way interaction of item 24 with item 26,  $F(61,1) = 3.70, p = .059$ . No other main factor or 2-way interactions were of relevance for market-related strategies (all  $p > .072$ ; two-tailed test).

We can summarize that if formal institutions are perceived as a chance, the prevalence of market-related strategies is being increased. This relationship was further examined by the reported (nearby significant) 2-way interaction: If informal institutions are viewed as a chance the perception of informal institutions as a chance further enhances the orientation for market-related strategies. If formal institutions are not being viewed as a chance, the perception of informal ones as a chance further decreases the orientation towards market-related strategies (cf. Figure 5).

**Figure 4. and Figure 5.**



## Conclusion

Hypothesis 1 regarding the evaluation of formal institutions as weak and negative was clearly confirmed by the analysis of items 1-15. This shows that the Albanian market remains critical with respect to formal institutions, the political system and problems of corruption and organized crime. Organized and general crime are perceived as substantial factors which raise entrepreneurial costs, whereas terrorism plays a minor role in the business environment of Albania (Hypotheses 2-4).

The two main outcomes that the perception of “formal institutions as a chance” decreases relationship-based strategies and increases market-relationship strategies are in line with our main hypotheses 5 and 6. According to the perception of informal institutions, we observed no effects on the orientation towards relationship-based strategies. For market-related strategies, we found out that if formal institutions are seen as chance, the market orientation is enhanced. In the opposite case (formal ones were seen not as chance) the same perception of informal institutions as a chance decreased reported market-strategies.

One limitation of the current study could be the understanding of the term “institutions”. As outlined, institutions refer to informal and formal rules. In daily life, institutions are being understood as organized units such as police, government, ministries etc. Future studies might further investigate the understanding of this term by entrepreneurs and how the measurement can be improved. In the current study, we ensured the understanding by adding the terms “written” and “unwritten rules” to our items. As for all self-reported surveys, the results should be interpreted cautiously.

Another limitation of the current study is related to the understanding of participants when referring to relationship-based strategies. Is this about personal relationships with customers, other market actors or with administrations? In addition, social desirability effects cannot be ruled out. Follow-up studies and future research need to further clarify these open questions. Research is also needed to re-test the observed 2-way interaction for market-strategies, which might be an interesting interplay of perceived formal and informal institutions, if it can be replicated in future studies. These future studies might be conducted with different entrepreneurial samples across different cultural contexts. As a main conclusion, we emphasize that the perception of formal institutions as a chance is of substantial importance for a market-related orientation of entrepreneurs. For market-related strategies, strong informal institutions might prevent from a decrease of the market-based orientations of the entrepreneurs, if the formal institutions were not seen as a chance (weak formal institutions).

## References

- Cilluffo, F., and Salmoiraghi, G. (1999). And the winner is ... the Albanian Mafia. *The Washington Quarterly*, 22(4), 21 – 25. <https://doi.org/10.1080/01636609909550421>
- Estrin, S., and Prevezer, M. (2011). The role of informal institutions in corporate governance: Brazil, Russia, India, and China compared. *Asia Pacific Journal of Management*, 28, 41–67. <https://doi.org/10.1007/s10490-010-9229-1>
- Esser, H. (2000). *Soziologie – Spezielle Grundlagen, Band 5: Institutionen (Sociology – Specific foundations, Volume 5: Institutions)*. New York, NY: Campus.
- Helmke, G., and Levitsky, S. (2004). Informal institutions and comparative politics: A research agenda. *Perspectives on Politics*, 2, (4), 725–740. <https://doi.org/10.1017/S1537592704040472>
- International Monetary Fund (2016). *Regional Economic Issues: Central, Eastern and Southeastern Europe – How to Get Back to the Fast Track*.
- Minh, T.T. & Hjørtsø, C.N. (2015). How institutions influence SME innovation and networking practices: The case of Vietnamese agribusiness, *Journal of Small Business Management*, 53(S1), 209–228. <https://doi.org/10.1111/jsbm.12189>
- Mirkovski, K., Lowry, P.B., and Feng, B. (2016). Factors that influence interorganizational use of information and communications technology in relationship-based supply chains: evidence from the Macedonian and American

- wine industries, *Supply Chain Management: An International Journal*, 21(3), 334–351. <https://doi.org/10.1108/SCM-08-2015-0343>
- Papadopoulos, I. (2006). Problems of democratic accountability in network and multilevel governance. Paper presented at the “Connex” RG 2 follow-up workshop on “Accountability in multi-level governance”, University of Lausanne, June 23–24, 2006, and at the “Connex” session “EU-Multi Level Governance and Democracy”; 20th IPSA World Congress, Fukuoka (Japan), July 9–13, 2006.
- Radulovich, L., Javalgi, R.G., and Scherer, R.F. (2018). Intangible resources influencing the international performance of professional service SMEs in an emerging market: Evidence from India, *International Marketing Review*, 35(1), 113–135. <https://doi.org/10.1108/IMR-06-2016-0130>
- Raufer, X. (2018). A neglected dimension of conflict: The Albanian mafia. In J. Koehler and C. Zürcher (Eds.), *Potentials of disorder* (pp. 62–74). Manchester, UK: Manchester University Press.
- Schwandner-Sievers, S. (2003). The Enactment of 'Tradition': Albanian constructions of identity, violence and power in times of crisis. In B. Schmidt and I. Schröder (Eds.), *Anthropology of Violence and Conflict* (pp. 97–119). London, UK: Routledge.
- Unger, R.M. (1987). *Politics: A work in constructive social theory*. New York, NY: Verso.
- Unger, R.M. (1996). *What should legal studies become?* New York, NY: Verso.
- United Nations report (2016) Human Development Report Office. Albania – Country Profile: Human Development Indicators. [Hdr.undp.org](http://hdr.undp.org).
- World Economic Forum (WEF). (2014). *The Global Competitiveness Report 2014–2015*. Buhalis, D., and Leung, R. (2018). Smart hospitality—Interconnectivity and interoperability towards an ecosystem. *International Journal of Hospitality Management*, 71(April), 41–50. <https://doi.org/10.1016/j.ijhm.2017.11.011>