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The Digital Transformation of Georgia

Economics, Management, and Policy

Springer

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Preface

The Relevance of the Digital Transformation for the Societal and Economic Development of Georgia

Background and Structure of the Book

The political and economic development of today's Georgia began with the "Rose Revolution" of 2003/2004. Several reforms, for example, the successful fight against corruption, improvement of the investment climate, and the reform of the tax legislation formed the basis for changes in the country. The gross domestic product (GDP) developed also in favorable terms at +5% over the last 10 years and positive forecasts for the years until 2027. Approaching and adopting the liberal economic system of the European Union and their member states resulted in a political agenda that, for example, planned to invest in the energy and logistics as well as in tourism industries that have developed well since. This policy making is also aimed at reducing the dependency from Russia, because the conflicts with Russia during the 1990s and later made it extremely difficult for the government to establish an independent and prospering economy with flourishing enterprises.

Every enterprise in every country seeks to ensure competitiveness since it is of paramount importance for economic and financial survival. Twenty years ago, companies such as Google, Facebook, Airbnb, and Uber were small start-ups founded by enthusiastic nerds who received little attention. Mostly, they were smiled at and not seen as serious competitors. Today, they are observed anxiously, as they have had a lasting impact on the competitive environment, e.g., in the communications, travel, and automotive industries, by introducing new business models and rules of the game. Companies are forced to make progress in the digitalization of their businesses. Answers to these new challenges are being sought. Big data, autonomous driving, the Internet of Things, 3D printing, robots, and artificial intelligence dominate discussions in various industries. The associated uncertainties

about how to shape this process of change are leading to an increased emotionalization of many projects.

Despite its economic growth, Georgia still suffers from high unemployment (+14%), especially among young people. An important reason for this is that the Georgian education system does not adequately prepare students for the challenges of today's job market. Mitigating the risks associated with high unemployment is to invest more in the educational sector, in new schools and university as well as attracting teachers and academicians.

Georgia as a country has been struggling very hard over the last decades to advance the country through a multitude of projects, initiatives, and business favorable legislation as well as continuously deepening the relationship to the European Union. One of the major cornerstones in this ambitious project was the decision to establish a new international university, namely Kutaisi International University (KIU) in the West of Georgia, some 90 km off the coast of the Black Sea. KIU started its operation in 2020. Established with the philanthropic contribution of the International Foundation Cartu, in partnership with the government of Georgia and TUM International, KIU follows the model of the Technical University of Munich (TUM), aiming to become a leading entrepreneurial and engaged university. KIU initially admitted 250 students in three different Bachelor study programs: mathematics, computer science, and management. One year later, in fall semester 2021, approximately 500 students were admitted and in 2022 another cohort of +200 students enrolled at KIU. Doctoral and Master level programs are also already mapped out. The entire project is aimed at forming a platform of international academic education and embedded in the economic structure of the country providing well-trained potential employees as well as sharing academic research results from experienced Georgian and international researcher teaching at KIU. Besides the foundation of a new university the connection to the local industrial community has been included from the very beginning of the project. Especially the digital transformation which has arrived in virtually all countries around the globe with great impact on society and economy, KIU helps to take advantage of this newly formed academic community. The landmark initiative of KIU is called *KIUInnovate* aimed at encouraging a spirit of entrepreneurship and innovation at this new university, while building up a strong and lively innovation ecosystem with the university's core.

KIU's overall goal is to build up human capital that meets the industry demands, contributing to social and economic development in Kutaisi, Georgia, and the whole Caucasus region. KIU is convinced that reaching this goal requires close cooperation and partnerships with the private sector and a wide range of other stakeholders. As a first step in this direction, KIU established KIUInnovate, an innovation ecosystem initiative in 2021, a framework for cross-stakeholder engagement to boost entrepreneurship and foster collaborative projects with regional, national, and international industry partners. The ultimate purpose of this initiative is to strengthen students' employability through adapting the study programs to the current industry and societal needs and offering capstone projects and internships. Moreover, collaborating with industry and other external partners will diversify the KIU's sources of

funding and ensure the accessibility of high-quality education across social groups. Aligning the KIU education programs to the needs of the private sector is also meant to reduce the skill mismatch and therefore reduce youth unemployment and promote social development. In return, industrial partners benefit from access to the latest knowledge, skills, and the availability of well-trained human resources.

KIUInnovate is the overarching initiative that comprises the entrepreneurial strategy, technology transfer, and collaborative programs in research and education. The aim is to gradually become an innovation and technology hub in the wider region and contribute to the establishment of a sustainable innovation ecosystem in Georgia. To kick-start KIUInnovate, KIU initiated an Innovation Ecosystem Workshop Series in the beginning of 2021. TUM International facilitated the sessions that were conducted jointly with KIU's academic and non-academic staff and with several external stakeholders from industry, politics, and civil society. As the process of fostering a long-term systems transformation needs to start with targeted solutions to address urgent needs, the workshop series aimed to identify key opportunities and challenges related to building up an innovation ecosystem and to identify specific areas of intervention and implementation roadmaps.

Therefore, KIU initiated a two-folded approach:

1. KIU's Industry Advisory Council (IAC): To align the university's focus and programs with the industry needs, a selected circle of high-level representatives from German and Georgian businesses as well as representatives of business associations was formed in 2021. The aim is to foster a close communication with industry to ensure that the KIU's academic development is aligned with the private sector's needs. This component has a more advisory and strategic dimension. Over time, the Alliance shall be extended by another platform, the KIU Corporate Partners, aimed at aligning companies and government institutions much closer with KIU to tackle joint project ideas in terms of research, technology transfer, and internships.
2. Innovation Ecosystem Platform: The main objective of this platform is to: (a) support KIU students and alumni to develop, scale up, and successfully commercialize their start-up products and services, (b) offer an incubator and accelerator, (c) organize technology transfer, and (d) implement events promoting innovation and entrepreneurial spirit amongst students.

But beyond encouraging an entrepreneurial spirit, industry representatives also call for well-trained graduates to advance the enterprises. The IAC successfully met two times already in 2021, engaging in discussions on how to integrate the industry needs more into the study programs (e.g., setting up an engineering study program) and identifying the next steps regarding potential corporate partners for internships and other joint projects, for example with members of the German Georgian Business Association. As one outcome, the IAC suggested to implement the project-based learning approach in KIU's curricula. The workshop series produced several concrete project roadmaps and ideas related to the Innovation Ecosystem Platform. One major outcome was connecting stakeholders from different institutions, companies, and organizations to co-create concrete collaborative projects. The

roadmaps have been partly driven forward already in 2021 and will be continued under the orchestration of KIU in 2022. In the summer break 2021 for example, KIU together with Georgia's Innovation and Technology Agency (GITA), conducted an entrepreneurial summer school for KIU student. This offered the participants the possibility to strengthen their entrepreneurial thinking and identify opportunities to scale up potential ideas. Other roadmaps, such as implementing a technology lab at KIU for students and building up support for entrepreneurs through offering co-working spaces and mentors, are in the process of being implemented in 2022.

The main challenge for the KIU management and innovation team is to identify stakeholders out of the ecosystem that are willing to engage in a systematic manner to mobilize capabilities for long-term development projects. The already implemented and planned activities bring several benefits to the industry partners as well. Building up a strong network through the project roadmaps enables companies to also engage with more advanced technologies and complex topics with a societal transformation impact. Concretely, such projects facilitate companies' access to KIU's labs, co-working spaces, and students.

Setting up the IAC and activating the private sector can be considered to have been successful. From the very beginning, KIU has been interested in partnering with large international corporations, especially to make KIU and KIUInnovate visible. TUM International, however, recommended to also focus on local, regional, and national partners. Given KIU's interest in offering internships, capstone projects, and other activities with industry, a close collaboration with local partners from the very beginning would contribute to stronger engagement with the local community. As a result, KIU integrated the pillar of "KIU Corporate Partners" in the IAC initiative with the goal of advancing it even more in the near future. Regarding the implementation of the workshop series, motivating the stakeholders in a first step was not a problem, as KIU already has a good reputation in Georgia. Therefore, the types of stakeholders that engaged were quite balanced. Keeping the motivation high after the workshops to advance on further developing the project roadmaps, especially with private sector participants, was much more difficult. KIU has learned that the university must step into the role of orchestrator and initiator of the whole process. To be able to do so, KIU is currently aiming to build up an Innovation Team at the university. Last year, KIU was already able to implement some smaller-scale projects within the platform, at the entrepreneurial summer school. Having a separate team at KIU to work on the IAC and Innovation Ecosystem Platform will allow the implementation of much more and bigger projects and ideas.

KIU is currently taking the first steps toward building up the innovation ecosystem. In the near future, KIU aims to engage much closer with international universities and attract international students, for instance within the context of a summer school at KIU and several already planned DAAD financed study trips to Germany. KIU also started the process of international accreditation at the end of 2021, to further internationalize their study programs. The IAC's long-term goal is to set up the framework for collaboration between KIU and the private sector and initiate R&D pilot projects with SMEs and large corporations. Bringing the two sides together, KIU is planning to organize a KIUInnovate Business Forum in 2022

with national and international industry representatives, national and international researchers, governmental institutions, and the IAC members. A main goal of this forum is to exchange ideas on how to strengthen the KIU-driven entrepreneurship and the innovation ecosystem.

This book is aimed at providing an overview of some of the important concepts for advancing a country and adopts two perspectives—from an economic and a managerial point of view to underscore the mutual interdependencies of policy making and management. The contributions represent a selection of research directions of the scholars and academicians working in these areas and are associated with KIU.

Part B of the book describes the digital transformation from an economic perspective starting with an examination of digital work platforms in the modern labor market. One of the important innovations in the labor market in the last decade is the emergence and development of digital work platforms. Based on a review of scientific literature, this chapter presents the essence of digital work platforms, types and classification of services, business models of the platform, and the scale of dissemination. The benefits and challenges of digital work platforms are also discussed in this manuscript. In the overview of the Georgian labor market, we have briefly outlined the available data on digital work platforms in Georgia. Digital work platforms in Georgia are at the initial stage of development. It is assumed that digital work platforms will play an important role in the labor market of Georgia in the future. However, the development of digital work platforms requires training of the necessary personnel, changes in the education system, employment status-related changes in the legislation, and the promotion of the development of relevant skills such as a good command of foreign languages and excellent IT knowledge in society.

Platforms are needed and foreign investments as well, thus the chapter on "The Role of Foreign Direct Investment (FDI) on Georgian Economy" investigates how to create an attractive investment climate in developing and poor countries that are unable to provide the substantial support needed to build up their economies with local resources. However, foreign direct investments are not always directed unilaterally to the well-being of the local economy as expected and mixed results were achieved in Georgia in the past. It has played a major role in Georgia's economic transformation process but there are still many open questions regarding the impact of foreign direct investment on the host economy, to what extent do foreign direct investments contribute to the development and modernization of local industries, and to what extent are they integrated in different sectors of the Georgian economy? This chapter concludes with an analysis of the development of foreign direct investment in Georgia addressing especially the dynamics of foreign direct investment in recent years and the ways to regulate the investment environment.

Part B of the book zooms in on the topic of foreign direct investments by presenting a case study that compares German and Georgian ways to attract start-ups intended at boosting national economies. This chapter provides an overview of the importance of start-ups for the global economy, followed by an outline of the role of start-ups for the German economy and the key success factors for developing an

attractive and prospering start-up hub, focusing on Berlin as the major German start-up hub in the 2020s. In addition to the macroeconomic view, a case study of a cleantech start-up is presented from the idea creation to funding and launching a viable product to market. The analysis of the German start-up cosmos and the findings from the case study together with an analysis of the current environment in Georgia—including the results of a survey showing how the Georgian start-up scene is perceived by international investors—provides the canvas for several conclusions and recommendations, for example, what is needed to position Georgia as an attractive international start-up hub and what is the outlook for the Georgian start-up economy.

Part C of the book adopts the managerial perspective regarding digital transformation issues. It represents a selection of topics which appear to be of paramount interest since favorable governmental legislation has to be translated in competitive and successful business management.

The first two chapters reflect project management approaches, traditional and agile ones as well as mixed method concepts to assist in implementing new ideas and innovation in an existing organization structure and thus increasing the likelihood of completing a project successfully.

In the light of the disruptive changes we have been experiencing during the last decades, there is a greater need than ever for models that help companies deal with these all-embracing shifts effectively and efficiently as well as the flexible utilization and application to these models. An excellent way to respond to these challenges is the Enterprise Transformation Cycle (ETC) model. It offers flexibility, adaptability, clarity, and simplicity, as well as integrating cultural specificities of companies. The Enterprise Transformation Cycle (ETC) has been tested and refined in countless projects over the last 15 years. The underlying assumptions in the context of a successful (digital) transformation are also presented and critically discussed.

Agile project management approaches have significantly gained attention over the last decades. This chapter explores the agile project management methodology as a key tool that can substantially contribute to the project success. It presents the challenges and reasons of implementing an agile approach. A review of international studies is combined with quantitative and qualitative data obtained from Georgian-based companies. Research findings show a positive correlation between this methodology and project success, but it is recommended that for future researchers more in-depth qualitative research, such as observation and interviews, needs to be conducted to improve the understanding of the agile methodology.

The relevance to engage early on in organizational change management (OCM) initiatives is discussed in the next chapter. Since dramatic changes impacting globally all economies and thus enterprises OCM needs to be deployed differently aiming at maintaining all capabilities needed to be able to permanently adapt to a changing external environment using a wide skill set. This chapter informs about the implementation and management of successfully integrated organizational change. A new change paradigm has emerged that will change the change but will enable enterprises to cope with and ultimately seize opportunities arising from change. The current methods available rather represent a one-size-fits-all approach toward change

and can be characterized by unclear thinking applying knowledge of the last century to solve current and pressing problems of the present. This chapter suggests a new approach of selecting a suitable change approach, integrating the ideas from agile management findings from affect-based research in OCM as well as outcomes from research examining the advantages and drawbacks of utilizing digital technology in change processes. Suggestions regarding embedding change in the current structure of an organization will be examined and close this chapter.

Since virtual teamwork has become almost the new standard of collaboration in organizations building trust in these new work environments has become a challenge as well. Trust, for example, is critical in distant leadership situations such as discussing project progress and results or personal performance evaluations and is difficult to establish without contextual knowledge and experience of team members. This chapter addresses the question of how managers can successfully build trust in the virtual team by reviewing the relevant literature on building trust in virtual teams and exploring possible solutions for managers through qualitative interviews with experts.

The next chapter "Recommendations for Leaders of Virtual Teams to Build Trust" informs about the relationship of remote work and level of employee stress and motivation performing a cross-country analysis of high and low-cost countries in Europe. This relationship was researched with a survey conducted at a company with teams mainly in Germany and Bulgaria—countries that have substantially different economic environments and salary levels. Findings reveal that location of work and different salary levels are almost negligible for motivation, stress, and work efficiency in comparison with management and leadership factors. These results deliver important information for the further development of Georgia, which is already listed among the top five countries for remote work. The chapter concludes with describing the prerequisites to support a prospering digital labor market ranging from qualification, company culture, and organization to salary levels.

Digitalization as a driver for successful talent acquisition and employee retention will be presented based on a short overview of the history of remote work. It discusses the impact of the recent pandemic with lockdown scenarios, the pros and cons of this very special time period for employees and management. Reviewing the learnings from COVID 19 home office regulations and an analysis of contemporary requirements of companies and candidates provide advice for a future hiring and retention strategy.

The final chapter discusses the impact of a 2-year lockdown during the pandemic on performing arts and arts management. The authors elaborate on the nature of arts, the historical and philosophical roots, and the peculiarities that separate arts and culture from mainstream digitalization. Risks, threats, and opportunities are identified and discussed as well as sharing future perspectives for culture and arts.

Part D of the book leaves the managerial perspective and tries to give a broader economic overview—partly from a macroeconomic perspective—on which economic fundamentals Georgia's policy makers should focus on, if the objective is to foster growth in the digital industry and to be a winner of the digitalization. Although the chapter also outlines some potential downsides of digitalization for

developing as well as for developed market-oriented countries, three economic policy branches are identified as crucial. As for other successful economic growth paths, the relevant Infrastructure for the industry, the necessary human capital, and the fundamental institutional environment, in all their differentiated policy dimensions, are well known to be decisive. In consideration of economic country comparison studies and contributions of international organizations, Georgia's status and basic data, as well as the academic literature, the same seems to be true for digitalization. Advantages and challenges for Georgia are discussed and policy makers may source from some additional examples from other developing countries and/or successful digital economies. The examples range from special economic zones with tax reductions, a stable and attractive inward foreign direct investment environment, to the investment in several layers of education, all of which can well be influenced by policy. However, a smart and sustainable economic digitalization policy will also manage potential downsides like an increase in social divide and will foster inclusive growth of the economy as a whole.

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Part I
Digital Transformation and the Economic Perspective

Digital Work Platforms in the Modern Labor Market

Murtaz Kvirkvaia

1 Introduction

After the collapse of the Soviet Union, many studies confirmed that the employment of the economically active population is one of the most acute problems in Georgian society. During the last three decades, the governments of Georgia have been trying to implement various employment programs and policies that will respond to the challenges of unemployment, although the results have not been very effective. It is significant that the measures implemented in the direction of solving the unemployment problem were based on the experience of different countries of the world. However, in the modern digital era, the labor market requires new approaches, which involve the development of new forms of employment and the promotion of expansion. Digital work platforms create new opportunities to solve the unemployment problems of the economically active population, but new challenges must also be taken into consideration. In addition, digital work platforms are a novelty in the reality of Georgia, and therefore the implementation of scientific research in the mentioned direction is actual and necessary action.

In order to study digital work platforms in general and in relation to the labor market of Georgia, we examined the research carried out on digital work platforms and the labor market in Georgia and abroad. Also we have analyzed reports, studies, and statements of international organizations, as well as official statistical data on the labor market of Georgia.

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2 The Essence, Types, and Models of Digital Work Platforms

The field of labor is characterized by constant changes with a certain periodicity. The most crucial change in the field of labor in the last decade is the emergence and development of digital work platforms. Like traditional labor markets, digital labor platforms involve a combination of demand and supply sides, where, theoretically, the price of labor is determined by the interaction of supply and demand. However, in digital work platforms, digital mechanisms play the role of an intermediary, which is not characteristic of the traditional labor market. In contrast to the traditional labor market, digital work platforms are new and still in the process of formation and development, therefore, research on digital work platforms is intensive. There are also different opinions about the essence and definitions of digital work platforms. It is also worth noting that the definitions of the digital work platform change over time. For example, Horton (2010) in his work refers to the online work platform as an online labor market and conveys the following opinion: "I propose a definition of OLMs that captures the essential common features of all markets and yet distinguishes the markets from other examples of online work: a market where (1) labor is exchanged for money, (2) the product of that labor is delivered "over a wire" and (3) the allocation of labor and money is determined by a collection of buyers and sellers operating within a price system." Later researchers (Codagnone et al., 2016) proposed a more complex and, as the researchers themselves call it, an adapted version of Horton's definition. Eurofaund (2018)[1] web page summarizes the features of digital work platforms and states that "The main characteristics of platform work are the following: Paid work is organized through an online platform. Three parties are involved: the online platform, the client and the worker. The aim is to carry out specific tasks or solve specific problems. The work is contracted out. Jobs are broken down into tasks. Services are provided on demand." "Researchers from various universities and representatives of international organizations, (Johnston et al., 2020) in joint work, note that digital platforms that connect workers with work—have emerged as a new trend in the world of work. Connecting predominately self-employed workers with clients in need of services on an on-demand basis, platforms have proved capable of transforming how, when, and where we work. They have become a reference point in discussions on industry transformation, labor market innovations, and the future of work and employment." In the final report of the European Commission (2021), digital labor platforms (DLPs) are defined "as private internet-based companies that act as intermediaries, with greater or lesser extent of control, for on-demand services requested by the individual or corporate consumers. The services are provided directly or indirectly by natural persons, irrespective of whether such services are performed in the physical or online world." Last year's International Labor Organization report (ILO, 2021) noted that platform work is

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[1] European Foundation for the Improvement of Living and Working Conditions.

work undertaken on digital labor platforms. These "facilitate work using "digital technologies to 'intermediate' between individual suppliers" (platform workers and other businesses) and clients (Hauben et al., 2020) or directly engage workers to provide labour services." In the same report, it is mentioned that digital labor platforms are the predominant form of platform connecting workers with businesses and clients, and have significant implications for the world of work. Researchers Piasna et al. (2022) consider digital work platforms in a broader sense, based on paid activities performed online that do not fall under standard employment relationships.

From the definitions given above and also by analyzing numerous other scientific works, in our opinion, the definition of digital work platform can be formulated as follows: **The digital work platform is an intermediary between supply and demand in the labor market. These intermediaries are private companies based on Internet technologies, whose purpose of intermediation is to make a profit. Digital job platforms use different business models for generating revenue. It is possible for digital intermediary platforms in the labor market to be created not only for the purpose of profit, but also with the aim of increasing employment or hiring opportunities, financial or other benefits of the society as a whole or a certain part of it. Within the framework of the digital work platform, the supply side of the labor market is represented by the labor force registered on the work platform, which offers services in exchange for payment. And the labor demand side is represented by individuals or companies registered on the digital work platform, who offer remuneration in exchange for services. The relationship between labor demand and labor supply within the digital work platform is based on algorithmic management system.**

Classifications of digital work platforms are proposed in the published scientific literature on types of digital work platforms. It can be said that given some different formulations. For example, according to the definition of a group of scientists (De Groen et al., 2016) "digital work platforms can be divided into at least two distinct groups: i) provider of virtual services that can be performed anywhere in the world and ii) providers of physical services that inevitably need to be performed locally." A relatively detailed typology of digital platform works is presented in a study conducted under the auspices of the European Parliament (Hauben et al., 2020), where digital job platforms are divided into four types of jobs: "lower-skilled offline or on-location work (type 1), higher-skilled offline or on-location work (type 2), lower-skilled online work (type 3), and higher-skilled online work (type 4)." In our opinion, a typical classification of the digital work platform is given in the report of the International Labor Organization (ILO, 2021), in which we read: "Currently, there are two main types of digital labour platform: **online web-based platforms**, where tasks are performed online and remotely by workers; and **location-based platforms**, where tasks are performed at a specified physical location by individuals. Online web-based platforms include microtask, freelance, contest-based, competitive programming and medical consultation platforms, while location-based platforms include those offering taxi, delivery, domestic, care and home services. Much

Table 1 Main categories of digital labor platform work services and tasks

Digital work platforms	Tasks, Services
Online web-based platforms	Online clerical and data entry tasks, micro tasks
	Online professional services
	Online creative and multimedia work
	Online sales and marketing support work
	Online software development and technology work
	Online writing and translation work
Location web-based platforms	Transportation services
	Delivery services
	Housekeeping and other home services

Authors' elaboration. Source: European Training Foundation. 2021. THE FUTURE OF WORK. New forms of employment in the Eastern Partnership countries: Platform work

attention has been given in recent years to location-based platforms such as Deliveroo, Glovo and Uber, especially in developed countries."

The basic typology of the services implemented within the framework of the digital work platform is proposed in the report of the European Training Foundation, (ETF, 2021), where it is presented in detail and succinctly what the main categories of tasks and services of both directions of the digital work platform include (on the example of Eastern European Partnership countries). (see Table 1).

In recent years, hybrid digital platforms have begun to develop. Digital work platforms are part of hybrid digital platforms. However, a hybrid digital platform does not mean the combination of online web-based and location-based platforms. Hybrid digital platforms include not only digital work, but also e-commerce, payments, and other services.

"According to the final report of the European Commission (2021) DLPs are for-profit companies structured as limited liability, though the precise legal form varies by country. Only the largest are publicly traded, while many are held by large international holding companies (e.g., Delivery Hero for food delivery DLPs). A small minority of DLPs are structured as collectives or cooperatives, which are collectively owned and operated. In fact, among the DLPs active in the EU 31 cooperatives (6% of active DLPs) were identified. Cooperative DLPs seem to be more common in Spain, France, and Belgium. They almost exclusively provide food delivery through a joint platform established by the CoopCycle association. Cooperatives are estimated to generate far below 1% of earnings of people working through platforms".

Obviously, profit-oriented online web-based and location-based work platforms use different business models. According to a study conducted by the European Training Foundation (ETF, 2021) "In the most general sense, labour platforms generate revenues by collecting commission fees on each transaction from workers, clients or both. However, the exact business models vary by platform."

If we generalize the business models of digital work platforms, we will note that digital work platforms receive income from workers and clients registered on the

platform in exchange for the mediation offered to them. However, the main revenues of digital job platforms come from the fees of registered workers on the platforms. This is confirmed by researches and reports carried out in recent years. For instance, the report of the International Labor Organization (ILO, 2021) states that "Upwork generated 62 per cent of its 2019 revenue from various types of fees charged to workers, while 38 per cent was generated through fees charged to clients. On location-based platforms, workers typically pay a commission fee on taxi platforms whereas on delivery platforms, it is businesses and customers that generally do so."

Online job platforms also differ from each other in terms of subscription plans. A number of platforms charge both the client and the registered worker a monthly subscription. Some platforms do not charge any party, while some platforms charge monthly subscription fees only from registered users or only from clients. According to the information provided on the web pages of the platforms, the monthly subscription fee can be as little as 1 dollar in some places, and on some platforms, it can exceed 1000 dollars per month.

There are also significant differences between location-based platforms in terms of setting fees for clients and workers. For example, delivery platforms charge restaurants, shops, and supermarkets a commission fee and charge customers a delivery fee. And the revenue model of taxi platforms is based on charging commission fees to the taxi driver. The commission fee, which is a percentage of the ride fare, varies within and between platform companies. Commission fees that location-based platforms impose depend on the country, the income of the population, the duration of the start of the operation, etc.

3   Dissemination of Digital Work Platforms

The use of digital work platforms does not have a long history. However, the number of digital work platforms is growing and covering an increasing geographic area. Focusing (ILO, 2021) on online web-based platforms and location-based platforms in the taxi and delivery sector, globally, there were at least 777 active platforms operating in January 2021. In 2021, almost 80% of the world's digital work platforms operated in the G20 countries. Within the G20 countries, platforms are largely concentrated in the United States of America (37%), followed by the European Union (22%), India (10%), and the United Kingdom (6%). Globally the number of platforms in the delivery sector is the highest (383), followed by online web-based platforms (283), taxi sector (106), and there are five hybrid platforms which provide varied types of services such as taxi, delivery, and e-commerce services.

The number of registered workers on the platforms gives us an idea of the dissemination of digital work platforms. It should be noted that there are no accurate data on the number of people employed on digital work platforms. Although some information can be obtained from the websites of the companies, however, job seekers are not limited to being registered on several platforms at the same time,

and thus, the information is still not accurate. Also, the number of people registered on digital work platforms does not give us the real idea of the number of people employed by the digital work platform, since registered people may not be employed through the platform for a long period of time. Additionally, digital job platforms often do not publish how many of the job seekers registered on their platforms are actually employed (internal employment). When considering at the number of people employed on digital work platforms, we must take into account that, according to the ILO report (2021) "there are two types of work relationships on digital labour platforms: workers are either directly hired by a platform or their work is mediated through a platform. Data on the number of workers hired by platforms are available either from annual reports or Crunchbase and Owler databases. The data shows that most of the digital labour platforms are micro and small enterprises employing either fewer than 10 employees or 11-50 employees. Only a few delivery and taxi platforms have more than 1000 employees." For example, Uber has 26,900 internal employees (marketers, software engineers, lawyers, managers, etc.). Also, as of 2020, more than 5 million people are employed on the Uber platform. Taxi drivers own or rent cars. Their employment status are self-employed or "partner drivers." They are employed through the mediation of the company. Uber uses a business model (Teece, 2018), where the service provided by them, matches customers with drivers through the appropriate application based on algorithmic management.

Compared to Uber, the number of direct hires (internal employment) is small, only 50 people, on the PeoplePerHour platform, although it employs a much larger number of workers through mediation.

The number of freelancers registered on digital work platforms around the world and the actual employment situation provides us with a certain idea about digital work platforms. A group of scientists (Kässi et al., 2021) combine data collected from various sources to build a data-driven assessment of the number of such online workers (also known as online freelancers) globally. In their opinion, "there are 163 million freelancer profiles registered on online labour platforms globally. Approximately 14 million of them have obtained work through the platform at least once, and 3.3 million have completed at least 10 projects or earned at least $1000." In the results of the same study,[2] the researchers indicate a margin of error, according to which the number of freelancers registered on digital work platforms can be more than 200 million, and among them, the number of people employed through platforms can reach up to 21 million.

We can get some idea about the spread of online work platforms through the new economic indicator "Online Labour Index (OLI)[3]" published by The iLabour Project at the Oxford Internet Institute.[4] According to researchers (Kässi & Lehdonvirta, 2018) "The Online Labour Index is an index that measures the utilization of online labour platforms over time and across countries and occupations." Online Labor

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[2]The study refers to online work platforms and does not cover on-location work platforms.

[3]http://ilabour.oii.ox.ac.uk/online-labour-index/.

[4]https://ilabour.oii.ox.ac.uk.

Index includes platforms for online freelancing, microwork, and similar activities, but excludes on location platforms such as Uber, Deliveroo, and so on. The OLI is based on tracking all projects and tasks posted to the five largest English-language online labor platforms: Freelancer.com; Guru.com; Mturk.com; Peopleperhour.com; Upwork.com. These five platforms account for at least 70% of all traffic to English-language online labor platforms. Since 2020, the OLI covers six non-English language platforms, three in Spanish and three in Russian. A group of researchers (Stephany et al., 2021) analyzed OLI and in their article notes that "In the last half decade (2016–2021), demand for online freelance work, measured by the OLI, has increased significantly. In early 2021, roughly 90% more projects were demanded via online freelance platforms than in mid-2016 when the OLI started. This equals an annual growth rate of 10%, which is significantly higher than changes in national (on-site) labour markets, which have plummeted in many countries as a result of the Covid-19 pandemic." Analysis of the structure of online labor demand by country shows that as of May 2022,[5] 42.0% of online labor demand comes from the United States, 8.1% from the United Kingdom, 6.3% from India, 6.2% from Canada, 6.1% from Australia, 2.1% from Germany, etc. It is also interesting what kind of jobs are in demand on online job platforms. For the same date, as of May 2022,[6] the structure of online labor demand by occupation was presented as follows: Software development technologies—38.8%; Creative and multimedia 21%; Clerical and data entry 13.4%; Writing and translation 12.3%; Sales and marketing support 10.9%; Professional services 2.6%. The analysis of the Online Labor Index gives us some insight into the structure of the online labor supply by country. For example, as of 2021 (Stephany et al., 2021) India accounted for the largest share of labor supply on online job platforms at 33%, followed by Bangladesh at 15%, Pakistan at just over 12%, followed by the United Kingdom and the United States with approximately 5 and 4%, etc.

From the web pages of individual companies, we can have a certain idea about registered job seekers and actively employed (external employment) who received certain incomes after registration. For example, as of 2020, (ILO, 2021) there were 1,048,575 people registered on Guru[7] (as of September). Of these, only about 0.5% (4862 people) completed at least one project and earned at least $1 after signing up. And only about 0.1% (1385 people) registered on the Guru platform completed at least ten projects and earned at least $1000 after signing up. The latter means that the oversupply of workers on this platform was 99.9%. With a similar approach, the oversupply of workers is 91.0% on the "PeoplePerHour" platform; 90% on the "99designs" platform; 73% on "Freelancer" and so on.

From the point of view of analysis, the studies conducted at the level of individual regions also provide useful results. According to the research (Piasna et al., 2022), there were 12 million platform workers (external employment) and 3 million internal

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[5]http://onlinelabourobservatory.org/oli-demand.

[6]http://onlinelabourobservatory.org/oli-demand.

[7]https://www.guru.com.

platform workers in the EU countries as of 2021. According to the same study, in the EU as a whole, people employed by online work platforms (external employment) spend about 72 million hours per week within the framework of online work platforms. According to the authors, this number of total hours spent per week is equivalent to the work time spent by 1.9 million full-time employees.

The proliferation and growing importance of digital work platforms can be judged by the value that is created within digital work platforms. According to the International Labor Organization, in 2020 Global revenue generated by platforms amounted to US$ 52 billion. 49% of which are in the United States; 11% Europe; 23% China; 17% Other regions. According to the research conducted on digital work platforms in the countries of the European Union (European Commission, 2021) "the total size of the DLP economy in the EU27 has increased almost fivefold in the past five years, from an estimated EUR 3 billion in 2016 to EUR 14 billion in 2020. This reflects the consolidated revenues of the parties involved, including the platforms, people working through the platforms and fourth parties. An estimated three-quarters of the DLP economy originates from taxi and delivery platforms". The researchers Tay and Large (Tay & Large, 2022) in relation to revenue and labor supply note that, "Digital labour platforms do not have an equal presence across the world. While platform revenue is channelled to the Global North, labour is concentrated in the Global South. This is especially the case for web-based online platforms. As of March 2022, India supplied 25 per cent of online web-based labour, yet in 2019–2020 represented only around 3 per cent of the global revenue from digital labour platforms."

According to existing studies, it is also clear that digital work platforms are only a source of basic income for a small number of people. For instance (Tay & Large, 2022) "US and EU surveys show that 16 per cent of US adults and 11 per cent of the working-age population in 14 EU states (aged between 16 and 74) have earned money or provided a service via a platform, while a smaller proportion use digital labour platforms as their primary source of income." For example, labor platforms were primary source of income for 1.4% of EU citizens (ILO, 2021).

The impact of COVID-19 on the spread and operation of digital work platforms will become one of the main directions of research in this field in the current period and in the future. Based on the final report carried out by European commission (2021) "COVID-19 has had a significant impact on the activities of certain types of platforms. More specifically, until 2019 the digital labour platform economy was dominated by taxi platforms, but due to COVID-19 this has shifted to delivery platforms. Indeed, food delivery platforms more than doubled in size during 2020, whereas taxi platforms lost about a third of their activities. Likewise, for platforms oriented towards the leisure and retail sectors, though these are significantly smaller in size." "After the start of covid 19, a large majority of platform workers in the European Union (EU) report either working more hours or re-starting working on platforms because of the pandemic" (Barcevičius et al., 2021). This applies to both types of digital platform work despite the different effects of restrictions on social contacts for online and on-site workers. COVID-19 also changed the way and methods that many on-location digital labor platforms operate.

4   Benefits and Challenges of Participants on Digital Work Platforms

Digital work platforms can have a positive impact on labor markets, although research shows that the development of digital work platforms is accompanied by certain challenges as well.

When talking about the benefits and advantages of digital work platforms, **flexibility** is particularly emphasized in studies and reports of international organizations. Jobseekers registered on the job platform have the opportunity, in some cases, to work according to their preferred schedule and from different geographical locations. **It can be said, that the flexibility of job location and schedule, along with the absence of formal skill requirements, lowers barriers to entry into the digital labor market, thus making digital work platforms attractive to workers.** The flexibility of digital platform work is also important from the central argument (Cano et al., 2021) most commonly used by platform companies is that platform work offers workers the "freedom" and "flexibility" to work whenever and wherever they want, becoming a source of income while positively contributing to platform workers' work–life balance. The attractiveness of flexibility for workers is confirmed by global studies (ILO, 2021) according to which the motivation to work on online web-based platforms for 29% of workers was due to job flexibility. In some countries, the motivation to work through a digital work platform is even greater because of the flexibility. For example, flexibility is the main motivation factor for 42% of those working on a location-based platform in Chile. Despite the differences of opinion, it should be assumed that the flexibility factor contributes significantly to the work–life balance of those working with the digital work platform.

Along with flexibility, the **possibility of employment and income** is an equally important factor in motivating working through a digital work platform. Platforms provide access to a larger pool of potential customers for independent workers, and greater opportunities to market their skills. That is why digital work platforms are considered a new form of employment that has great potential for development. The information presented in the previous chapter also confirms that the number of employees with the digital work platform is increasing. Accordingly, the number of people who receive income from digital labor platforms is increasing. It is also worth noting that so far (Kässi et al., 2021), there are not many people in the world who earn high incomes through platforms, although the number of people with some small income is increasing and has a growing trend. Despite the low incomes of the majority of digital work platform workers, from the workers' perspective (Engels & Sherwood, 2019) "digital platforms provide access to flexible additional income generation opportunities by removing market entry barriers." Additionally, in terms of employment opportunities for the population, it should be noted that platforms can facilitate a more balanced geographic distribution of opportunity for workers, both globally and within countries, through creating more opportunities for remote working and bringing work and services to marginalized communities. It should be emphasized that online work platforms provide employment opportunities not only

to workers in general, but platforms are a good opportunity for people with disabilities, as well as the population of regions, to perform certain tasks for payment.

One of the benefits of a digital work platform is the **reduction of transaction costs**. For example, digital work platforms can reduce the costs of searching for information about both registered people and customers. The time and financial costs of both parties (demand, supply) are reduced, as well as the minimization of auction or trade costs by the digital work platform. Another advantage of a digital work platform should be considered the savings that clients can make when using the platform's workers. In particular, demand side clients (companies and individuals) can hire fewer people on a fixed salary and pay the online platform worker for specific work done through the labor platform. Online web platforms (companies) can access talent from all over the world, allowing them to use these platforms for recruitment processes and greater efficiency. Also, unlike the traditional works and labor market, online platforms do not need any capital assets.

In our opinion, the economies derived from digital platforms have led to the **outsourcing** of labor from developed countries to developing countries. However, the growth of labor outsourcing by digital work platform clients is not accompanied by labor migration, as a significant part of the work is done online through the digital platform. In general, it can be said that online work platforms are an opportunity to reduce the outflow of labor force from developing countries, and thus represent an alternative to population migration.

Along with the benefits of digital work platforms, researchers and specialists convey the challenges that appeared in the labor market along with the expansion of the activities of digital work platforms.

Algorithm codes are often discussed in relation to the digital work platform. The problem lies in the following: Both On location-based and Online web-based digital work platforms are based on **Algorithmic management.** Algorithms on digital job platforms determine worker ratings, job allocation, work schedules, job offer acceptance, future job availability, work hours, job offer rejections, etc. All of this is done through algorithmic codes, which raises questions about the flexibility of the digital platform's work and the autonomy of the workers. There are also questions about the platform's control over work. Researchers (De Stefano & Taes, 2021) note that "The continuous monitoring of workers may also cause an undesirable blurring of work and private life." An International Labor Organizations report on algorithmic codes states: on location-based platforms, the apps are sometimes designed in such a way that they allow for human biases in the code of the algorithms, which can then lead to inadvertent discrimination against some workers.

One of the challenges of digital platform workers is related to the **status of the employee.** The working conditions of the employees are determined by the terms of the service agreement developed by the platform (working time, remuneration, etc.). According to the mentioned conditions, the workers of the digital platform are independent contractors, referred to as self-employed. Therefore, since they have the status of self-employed and not of employed, they are not included in the country's social protection system. Employees of the digital work platform have to cover all their own social security costs. In this regard, another problem arises,

namely, because they do not have the status of employees, they cannot receive financial or other types of assistance during the period of unemployment, which is provided to the unemployed people in different countries.

The challenge for digital job platform workers is the **excess supply** of job seekers compared to the demand for work, due to which the possibility of getting a job decreases, the competition among job seekers increases and the financial income of those employed with the digital job platform goes down. At the same time, the excess of supply gives platforms the market power to influence working conditions, which in many cases is expressed in charged fees to access work. Also, another challenge for digital platform operators, along with high competition, is **high commission fees**. As we saw in the previous subsection, the main income of digital work platforms is high commission fees. The **non-remunerated time** spent by workers is also important. We are talking about those working on location-based platforms, who often spend a lot of time waiting for work. However, they will not be compensated for this time.

Among the challenges of the demand side of the digital work platform, it is worth noting the **dominance of large digital work platforms** in some fields, which prevents the functioning of the market based on the principles of free competition. Dominant digital work platforms create problems for both traditional businesses and new digital work platform startups wishing to operate in the same sector.

In the scientific literature, there are many contradictory opinions about the advantages and challenges of the digital work platform. For example, researchers (Cano et al., 2021) conclude that some platforms limit workers choice despite promising full flexibility. In other words, in the case of some platforms, the benefits of the digital work platform (for example, flexibility) are not actually received by the employed workers.

In addition to the benefits and challenges presented in this subsection, other benefits and challenges are discussed in the academic and scientific literature. For example, in the report published by the World Economic Forum (2020) on the benefits and challenges of the digital work platform, it is noted that "digital work/ services platforms offer considerable benefits to consumers, workers and employers. Benefits of the sector for workers include flexibility; geographic diversity; greater demand; inclusivity; expanded employment; improved matching; formalization and reliable payment. However, for these opportunities to be realized, certain challenges for workers need to be addressed: reasonable pay; benefits and social protections; security; upskilling; dignity; representation and balance of power." In the scientific literature published by researchers, the benefits are found under different names, although they are often similar in content. The same applies for challenges. For example, when we talk about the problem of the employee's status within the digital work platform, in some cases, it is automatically meant the employee's social security, career, employment stability and other challenges that are closely related to the employment status.

The challenges listed above require appropriate approaches, otherwise according the world economic forum (2020) "if the challenges posed by platform work for work quality and social security are not addressed, the expansion of this type of work

could also lead to increased precarity and insecurity for workers. Companies will need to ensure that platform work intermediaries are meeting necessary standards. Regulation will need to evolve to appropriately balance the risks and rewards of platform work. And work/services platforms themselves will need to ensure that they are leading on their societal and stakeholder responsibilities."

In order to solve the problems related to digital work platforms, various countries have laid the foundation for initiatives Around digital labor platform, which implies the introduction and implementation of certain regulatory mechanisms. For example, in 2016 in France the government (Tay & Large, 2022) "introduced the El Khomri law which means that, under certain conditions, the platform operator must provide reimbursement for insurance against occupational accidents or illness and contribute to professional training; the law also gives workers the right to form and join a trade union; In 2019 in Australia Uber drivers have been classed as independent contractors by the Fair Work Ombudsman; In 2019 in Israel the Ministry of Labour and Social Affairs offers training in digital skills to allow workers to take advantage of opportunities in the platform economy; In 2021 under the new labor code in India gig workers will receive minimum wages across different sectors; In Finland the Public Employment Service has integrated digital labour platforms into their digital job-market platform (Työmarkkinatori) to offer work opportunities; In 1921 in China the Ministry of Transport, the State Administration for Market Regulation and other government agencies published separate guidelines calling for better protection of workers on food-delivery platforms, including minimum-wage income, social security and insurance coverage; in 2021 in USA (New York City) a minimum wage was extended to Uber and Lyft drivers" and so on.

The research conducted on digital work platforms and the reports of international organizations discusses the necessity of state regulation of platforms. However, comprehensive studies on the impact of the regulation of digital work platforms in different countries or the future consequences have not yet been conducted.

5   Unemployment, Employment, and Digital Work Platforms in Georgia

The official indicators of unemployment and employment in a country depend on the criteria used by official statistical offices to count the employed and unemployed population. According to the current accounting methodology,[8] the unemployment rate in Georgia[9] in 2021 was 20.6%. If we take this level of unemployment in absolute numbers, it means that in the same year, more than 300,000 people out of

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[8]https://www.geostat.ge/en. In Georgia, since 2019, a new methodology of registration of unemployed and employed is being used. It is necessary to take this into account since the level of unemployment in Georgia was much lower with the old methodology.

[9]https://www.geostat.ge/en.

1.5 million economically active population were unemployed. In the last 8 years, the lowest level of unemployment was recorded in 2019, when the unemployment rate was 17.6%. However, the unemployment rate has continued to increase in the following period, which is most likely related to the start of the Covid 19 pandemic. According to age groups, unemployment is highest among young people aged 20–24 and is 41.0%. The unemployment rate among 25- to 29-year-olds is also high, at nearly 28% in 2021. In the same year, the unemployment rate among women was 17.8% and among men 22.7%. According to the level of unemployment, there are significant differences between the regions of Georgia. For example, in 2021, the highest unemployment rate was recorded in Racha Lechkhumi and Kvemo Svaneti (30%) and the lowest in Kakheti region (8.7%). The unemployment rate in Tbilisi, the capital of Georgia, was 23.8% last year.

According to the data of the National Statistics Office of Georgia,[10] in 2021, 1217.4 thousand people were employed, which is 40.4% (employment level)[11] of the population over 15 years old. The employed population in Georgia is divided into two categories: employed (hired) people, who make up 68.1% of the total employed (829.3 thousand people), and self-employed people, who make up 31.8% (387.1 thousand people). A significant part of the workers is employed in the informal sector, where according to official statistics, the share of informal employment in non-agricultural employment in 2020 was almost 29.0%. The distribution of employees according to the types of economic activity shows that the main areas of employment are agriculture (18.9%), retail trade (14.8%), education (12.0%), and industry (11.3%). The average monthly salary of employees in 2021 was 1357.4 GEL. If we take into account the average exchange rate[12] of the Georgian Lari in the same year, the average salary in Georgia was equivalent to 356 euros in GEL. The difference between the wages of men and women persists over the years. For example, in 2018, women's average monthly earnings were about 64.0% of men's average monthly earnings, and the same figure in 2020 was 67.6%. There is a significant difference in average monthly wages between regions. For example, the average monthly wage in Racha Lechkhumi and Kvemo Svaneti region in 2020 was only 43.4% of the average monthly wage in Tbilisi, the same rate was also low in Guria (48.7%) and Shida Kartli (54.6%).

If we summarize the current situation in the labor market of Georgia according to the presented indicators of unemployment, employment, and wages, as well as the results of previously conducted research on the labor market, we can highlight some essential characteristics of the labor market of Georgia: The level of unemployment in Georgia is very high; Unemployment rates vary dramatically by age group and are particularly problematic among young people.[13] The Covid 19 pandemic

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[10] https://www.geostat.ge/en/modules/categories/683/Employment-Unemployment.

[11] The employment rate expresses the number of persons who are employed as a percent of the relevant aged population.

[12] 2021-EUR/GEL (Period average)- 3.8140.

[13] https://www.geostat.ge/en/modules/categories/683/Employment-Unemployment.

(Paresashvili et al., 2021) further exacerbated the unemployment problem in Georgia; Unemployment levels are different in regions (Kvirkvaia, 2016), and this difference does not change over the years; A significant part of the workforce is concentrated in Tbilisi, and internal migration (from the regions to the capital) has not decreased over the years; The external migration of the labor force from Georgia has an irreversible characteristic, the main reason of which is to find a job abroad (State Commission on Migration Issues, 2021); A significant part of the employees works in the informal sector (Danish Trade Union Development Agency, 2021); Along with unemployment in the labor market of Georgia, there is a shortage of qualified personnel in a number of specialties (Badurashvili, 2019); The average salary of employees in Georgia is low (compared to developed countries), And men's and women's salary (Bendeliani, et al., 2014) differs significantly; A significant part of the workers is employed in agriculture, where the wages are low and mainly low-skilled labor is used; There are sharp differences between the average monthly salary levels between regions. About a third of employees are self-employed, and a significant part of them is inefficiently employed (Tsartsidze, 2018) because the vast majority of self-employed people receive very low financial compensation, or do not generate financial income at all. It is confirmed by previously conducted studies that organizations have a problem of mismatch (vertical[14] and horizontal[15] mismatch) between the knowledge and qualification of an employee and job requirements. Young people's choice of profession (Charaia et al., 2018) is not made thoughtfully considering future employment opportunities (Tsarsidze, 2018); Inadequate cooperation between employers and higher education institutions (Kikutadze et al., 2021) which, among other factors, ultimately makes it difficult (Dekonidze & Bardak, 2018) to enter and stay in the labor market.

In Georgia, despite many efforts, it is not possible to solve the listed problems. Moreover, the severity of the number of issues increases over time, there is inefficient employment in the labor market, and the unemployment rate remains at a stable high level. Obviously, labor market problems in Georgia cannot be solved with a one-time program. However, a short period of time will not be enough to address these issues. It is also clear that traditional approaches within the active and passive policies of the labor market are not enough to ensure effective employment and the problem of unemployment in the labor market. In order to solve the problems over time, along with other measures, new forms of employment need to be developed. In our opinion, digital work platforms can be one of these directions. The problems in the labor market in Georgia are complex, and digital work platforms are not a way to fully solve the problem. However, the experience of other countries confirms that this new form of employment will improve the situation in the labor market in several directions.

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[14]Level of education and qualifications is less or more than required.

[15]Level of education or qualifications is appropriate for the job, but the area of education or skills is not suitable for the job.

The existence and functioning of digital work platforms in Georgia have not been properly studied yet. However, there are some materials that give us an idea of the situation in Georgia in terms of the development of digital labor platforms.

In Eastern European partner countries, last year, an important study was conducted by the European Training Foundation (ETF, 2021), which covered Armenia, Azerbaijan, Belarus, **Georgia,** Moldova, and Ukraine. The purpose of the research was to study new forms of employment and digital work platforms in the listed countries. According to the study, digital work platforms in Georgia, as well as in many other countries of the Eastern Partnership, are just beginning to emerge. There are both local and international digital job platforms in the country. In Georgia (ETF, 2021) "Among **the on location-based** platforms**,** the most common are Glovo, Bolt, GG Taxi, Alo Modi and Yandex Taxi. The actual number of workers is not available on the platforms, but relevant Facebook groups provide some indications. For example, Bolt Food couriers in Tbilisi had around 900 members[16] as of early 2021, whereas Glovo and Wolt group had 1 800 members.[17] Local platforms such as caru.ge; mrmaster.ge; profy.ge; alomodi.ge were also gaining in popularity for other on-location services, mostly for repairs and handyman work. Among online web-based platforms, Ido.ge (2846 clients, 481 service providers) and Cartooli (work.cartuli.com) were the most popular in Georgia by the end of 2020."

The activity of Georgian citizens on some platforms is higher than that of some Eastern European countries, and there are also online work platforms where the activity of workers from Georgia is less compared to other countries of the Eastern European Partnership. For example, on the Online web-based platform "Freelancer," which is an Australian company, by the end of 2020, 2800 job seekers from Georgia were registered. In terms of the number of registered job seekers on the mentioned platform, Georgia was ahead of all Eastern European Partnership countries except Ukraine. The situation was the opposite, for example, on the English-language online work platform "Guru." With 800 registered people, Georgia was in one of the last places among the Eastern European Partnership countries. The activity of Georgian citizens was low on Russian-language online job platforms as well. For example, on the Russian-language platform—"Weblancer," Georgia had the smallest number of registered users among the reviewed countries. The analysis of the activity of Georgian citizens on the GURU, WEBLANCER, AND FREE-LANCER online job platforms in terms of gender shows that the number of men registered on the platforms (about 66.0%) is twice the number of women (about 33.0%). It should be noted that the percentage of registration of women on online work platforms in Georgia is the highest among the Eastern European Partnership countries. When discussing digital work platforms in Georgia, we cannot ignore the spread and scope of social media. They do not belong to digital work platforms that mediate between the job seeker and the client based on algorithmic codes. However, in Georgia, LinkedIn and Facebook are no less important than typical digital work

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[16]See more: https://www.facebook.com/groups/226776118846039.

[17]See more: https://www.facebook.com/groups/298595938058493.

platforms, on the one hand for finding jobs and on the other hand for finding the necessary specialists. The importance of social media can be judged by the number of people united within different social media platforms.

Creative and multimedia, software development, as well as clerical and data entry, translating, and other jobs were the most of all offered to Georgian citizens registered on the websites of major international platforms.

From the web pages of the On location-based platforms registered in Georgia, it is clear that the status of the workers is self-employed or an individual entrepreneur who is a service provider. Within the framework of on-location-based platforms, services were first launched in the capital, however, over time, the provision of their services also increases in the big cities of Georgia. It is also clear from the web pages of location-based platforms that, in most cases, no special knowledge is required for those seeking employment. Most platforms require that the minimum age of registrants should be 18 years.

Those working on location-based platforms in Georgia face the same challenges that are typical for those employed by these platforms in general. This is confirmed by the strikes and protests of On location-based platform workers in the past years. The main demands of the workers were related to working conditions and the amount of wages.

6   Conclusions and Recommendations

Digital labor platforms are becoming an important part of the modern digital economy. In the last decade, the number of digital work platforms has been steadily growing. The number of people employed through the platform and the number of job seekers registered on the platforms are also increasing. Digital job platforms have become a new form and direction of employment, which has great potential for employment of the working-age population.

In Georgia, as well as in other Eastern European countries, digital work platforms are at the initial stage of development. So far, digital work platforms cannot play a significant role in solving the problems in the labor market of Georgia. However, the development of digital work platforms can bring significant benefits to the country.

Digital labor platforms create multiple opportunities for different groups of the population. However, in the case of Georgia, due to the severity of the problem (very high level of unemployment among young people), special attention should be paid to the possibility of employment of young people. In the mentioned direction, it is necessary to take into account that the development of digital work platforms in Georgia requires a workforce with appropriate skills and knowledge, which the country's education system can provide. However, the connection between higher educational institutions and the labor market in Georgia is weak, and the forms of cooperation are still not diverse. Accordingly, higher education institutions, along with other labor market requirements, should take into account and reflect in their academic programs the skills needed for employment on digital work platforms.

With such an approach, higher education institutions will help prepare competitive labor force for local and international labor markets.

When discussing the issues of employment in Georgia in general and employment of young people in particular, together with their education, we should take into account that labor outsourcing from the United States of America and EU is taking place in developing countries, which is one of the good opportunities for employment of the population of Georgia.

Georgia is characterized by horizontal[18] and vertical[19] mismatch in the traditional labor market. Digital work platforms are not immune from these inconsistencies. Therefore, training and retraining for digital work platforms should be based on current and prospective demand in digital labor markets.

In addition to flexible work schedule, additional income and other typical benefits, digital work platforms can become a means of reducing one of the most acute problems in Georgia, the labor migration of the working-age population. An important part of the labor migrants from Georgia is a qualified labor force who, in case of proper training (especially young people), have the potential to be employed on online web-based platforms. The development of on-location-based platforms is a good alternative to labor migration of low-skilled workforce.

Another benefit that society can get from digital job platforms is the opportunity for people with disabilities, ethnic minorities and some rural residents to get employment and earn income (primary or supplementary) through digital job platforms. However, so far, in Georgia and other countries, the mentioned population groups are underrepresented in the online labor market.

Discussions on the policy to be implemented in order to promote employment within the framework of the digital work platform and also to deal with the challenges related to the platform have not yet started in Georgia. However, we consider the Social Economic Development Strategy of Georgia (Government of Georgia, 2020) as a positive step in the development of digital work platforms in Georgia, where several target areas to enhance the digital ecosystem are outlined, including High-speed Broadband Internet for future development, e-Literacy and Capacity Building, Innovation and High-Tech, and e-Government.

In order to develop the online work platform, the issues of statistical registration of the mentioned category of employees should be regulated. In particular, the methodology of registration of those working with the online work platform should be developed and their employment status should be specified. Systematic character should also be given to foreign language and IT skills development trainings.

It is necessary to give a certain place in the labor legislation to the online work platform and the working conditions of the people employed by this platform, the risks of discrimination, the employment status and other social issues. However, it

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[18]Level of education or qualifications is appropriate for the job, but the area of education or skills is not suitable for the job.

[19]Level of education and qualifications is less or more than required.

should be noted that digital work platforms are largely outside the scope of regulation, and that is why they are attractive.

However, it is not easy to predict how effective and attractive these forms of employment will be after regulation. In any case, if we are talking about the necessity of regulation, it will be appropriate to be on a very minimal extent. However, this issue requires further in-depth study.

References

Badurashvili, I. (2019). *Skills Mismatch Measurement in Georgia*. European Training Foundation. https://www.etf.europa.eu/sites/default/files/2019-10/skills_mismatch_measurement_georgia.pdf

Barcevičius, E., Gineikytė-Kanclerė, V., Klimavičiūtė, L., & Ramos Martin, N. (2021). *Study to support the impact assessment on improving working conditions in platform work*. European Commission, Publications Office of the European Union. https://doi.org/10.2767/527749

Bendeliani, N., Amashukeli, M., & Khechuashvili, L. (2014). *Gender discrimination in Georgian labour market*. Center for Social Sciences. https://doi.org/10.13140/RG.2.1.2930.8645

Cano, M. R., Espelt, R., & Morell, M. F. (2021). Flexibility and freedom for whom? Precarity, freedom and flexibility in on-demand food delivery. *Work Organisation, Labour and Globalisation, 15*(1), 46–68. https://doi.org/10.13169/workorgalaboglob.15.1.0046

Charaia, V., Kvirkvaia, M., Kikutadze, V., Sikharulidze, D., & Shaburishvili, S. (2018). Study of factors affecting young people. *Globalization and Business, 6*, 233–241. https://doi.org/10.35945/gb.2018.06.035

Codagnone, C., Abadie, F., & Biagi, F. (2016). The Future of Work in the 'Sharing Economy'. Market Efficiency and Equitable Opportunities or Unfair Precarisation? *JRC Science for Policy Report*. Available at https://ec.europa.eu/jrc/en/publication/eurscientific

Danish Trade Union Development Agency. (2021). *Labour Market Profile Georgia – 2021*. Danish Trade Union Development Agency. https://www.ulandssekretariatet.dk/wp-content/uploads/2021/01/LMP-Georgia-2021-final-rev.pdf

De Groen, W., Maselli, I., & Fabo, B. (2016). *The digital market for local services: A one-night stand for workers an example from the on-demand economy, JRC100678*. Publications Office of the European Union.

De Stefano, V., & Taes, S. (2021). *Algorithmic management and collective bargaining*. ETUI, The European Trade Union Institute. https://www.etui.org/publications/algorithmic-management-and-collective-bargaining. Accessed June 26, 2022

Dekonidze, A., & Bardak, U., (2018). *Youth transition to work in Georgia*. European Training Foundation (ETF). https://www.etf.europa.eu/sites/default/files/2018-12/Youth%20transition%20Georgia.pdf

Engels, S. & Sherwood, M., (2019). *What if we all worked gigs in the cloud? The economic relevance of digital labour platforms*. Publications Office of the European Union, https://doi.org/10.2765/608676 (online).

ETF. (2021). *European Training Foundation. The future of work. New forms of employment in the Eastern Partnership countries: Platform work*. ETF. https://www.etf.europa.eu/en/publications-and-resources/publications/future-work-new-forms-employment-eastern-partnership

Eurofaund. (2018). *Eurofaund-(European Foundation for the Improvement of Living and Working Conditions)*. www.eurofound.europa.eu/data/platform-economy/typology. Available at: www.eurofound.europa.eu/data/platformeconomy/typology

European Commission. (2021). *(Directorate-General for Employment, Social Affairs and Inclusion). Digital labour platforms in the EU: mapping and business models: final report*. Publications Office of the European. https://data.europa.eu/doi/10.2767/224624

Government of Georgia. (2020). *Social-economic Development Strategy of Georgia "GEORGIA 2020"*. Government of Georgia. http://extwprlegs1.fao.org/docs/pdf/geo171436.pdf

Hauben, H., Lenaerts, K., & Waeyaert, W. (2020). *"The platform economy and precarious work". EPRS: European Parliamentary Research Service*. European Parliamentary Research Service. Retrieved from https://policycommons.net/artifacts/1426641/the-platform-economy-and-precarious-work/2041089/ on 27 June

Horton, J. (2010). *"Online Labor Markets" Internet and Network Economics - 6th International Workshop. December 13-17, 2010*. Proceedings. Stanford, CA, USA, s.n. https://doi.org/10.1007/978-3-642-17572-5_45

ILO. (2021). *World Employment and Social Outlook. The role of digital labour platforms in transforming the world of work*. International Labour Office. ISBN 978-92-2-031941-3 (web PDF).

ILO. Working Group. (2021). *Digital platforms and the world of work in G20 countries: Status and Policy Action. ILO*. Paper prepared for the Employment Working Group under Italian G20 Presidency. https://ilo.org/wcmsp5/groups/public/%2D%2D-dgreports/%2D%2D-cabinet/documents/publicatio, s.l.: s.n.

Johnston, H., Caia, A., et al. (2020). *Working on digital labour platforms. A trade union guide for trainers on crowd-, app- and platform-based work*. ISBN: 978-2-87452-582-7 (electronic version).

Kässi, O. & Lehdonvirta, V. (2018). Online labour index: Measuring the online gig economy for policy and research, Technological Forecasting and Social Change, 137, 241–248, ISSN 0040-1625, https://doi.org/10.1016/j.techfore.2018.07.056.

Kässi, O., Lehdonvirta, V., & Stephany, F. (2021). How many online workers are there in the world? A data-driven assessment [version 4; peer review: 4 approved]. *Open Res Europe*, *1*:53. [Online] Available at: https://doi.org/10.12688/openreseurope.13639.4

Kikutadze, V., Kvirkvaia, M., Daghelishvili, N., & Tavkhelidze, T. G. G. (2021). Cooperation between higher education institutions and employers in Georgia. *Ekonomisti, 2*, 74–98. https://doi.org/10.36172/EKONOMISTI

Kvirkvaia, M. (2016). Analysis of employment and unemployment in municipalities of Georgia. *European Scientific Journal, ESJ, 2*, 159–170. https://eujournal.org/index.php/esj/article/view/6833

Paresashvili, N., Abesadze, N., Kinkladze, R., Chitaladze, K., & Edzgveradze, T (2021). Georgian Labour Market during the Coronavirus Pandemic. SHS Web of Conferences, 13 January, Vol: 92. *The 20th International Scientific Conference Globalization and its Socio-Economic Consequences 2020*, p. 9.

Piasna, A., Zwysen, W., & Drahokoupil, J. (2022). *The platform economy in Europe*. ETUI, The European Trade Union Institute. https://www.etui.org/publications/platform-economy-europe, Accessed June 26, 2022

State Commission on Migration Issues. (2021). *"Migration Profile of Georgia". With migration statistics for the years 2016-2020*. State Commission on Migration Issues. https://migration.commission.ge/files/mmp21_eng_web3c.pdf

Stephany, F., Kässi, O., Rani, U., & Lehdonvirta, V. (2021). Online Labour Index 2020: New ways to measure the world's remote freelancing market. *Big Data & Society*. https://doi.org/10.1177/20539517211043240

Tay, P., & Large, O. (2022). *Making it work: Understanding the gig economy's shortcomings and opportunities*. Tony Blair Institute for Global Change. https://institute.global/policy/making-it-work-understanding-gig-economys-shortcomings-and-opportunities

Teece, D. (2018). Business models and dynamic capabilities. *Long Range Planning, 51*(2018), 40–49. https://doi.org/10.1016/j.lrp.2017.06.007

Tsarsidze, M. (2018). Professional education and human capital development difficulties in Georgia under the modern globalization terms. *Globalization and Business, 6*, 211–216. https://eugb.ge/uploads/content/N6/Murman-Tsartsidze.pdf

Tsartsidze, M. (2018). Unemployment and the effective employment problems in georgia under the modern globalization terms. *Journal of International Economic Research, 4*(1), 89–95. https://45eb95be-6154-4a8a-b1be-7ac97217311c.filesusr.com/ugd/7ebfb0_ecb235cfb5184bb094e6c56ffae3d6d2.pdf, ISSN 2500-9656

World Economic Forum. (2020). *The Promise of Platform Work: Understanding the Ecosystem.* World Economic Forum. https://www.weforum.org/whitepapers/the-promise-of-platform-work-understanding-the-ecosystem/

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The Role of Foreign Direct Investment (FDI) on Georgian Economy

Ani Kalandia

1 Introduction

Savings and investment as the concept of the same economic category were opposed by J.J. Keynes, who came to the conclusion after the depression and economic crisis of the 1930s that various factors influence the size of investments, as opposed to equating investment and savings. In his view, these factors include: the expected decline in the capital norm, the strict interest rates imposed by financial institutions, and so on. These factors result in less profitable cases of investment. Keynes thought that during the uncertain economic processes, the demand from the population for liquid assets, in particular—for money, increases, which leads to an increase in prices and interest rates in the country, and as a result, the interest in investments decreases. Society is trying to spend less money, increasing savings and decreasing investments.

Keynes was completely opposing with the theories of the classical school of economics and logically suggested that an important condition for the accumulation of income was the existence of demand, taking into account the factors that contribute to the origin of demand. Society uses personal consumption for effective demand. Consumption for personal use depends on the level of employment and that is why unemployment in the country is the most hindering the formation of effective demand.

The development of the original theory of investment is related to the school of the Mercantilists, among whom were distinguished T. T. Mann, d. Yumi, D.Los, Zh. Colbert, L. Zekendorf, I. Beher. In the field of investment theory, their scientific principles focused on the sources of the formation of investment resources. They did not separate the concepts of capital and money, and money was seen as a source of

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investment that served to increase the volume of entrepreneurial and trading activities. Mercantilists were the first to pose the condition for the existence of state regulations. State regulation included the creation of investment resources and an increase in foreign investment flows.

Representatives of classical political economy, A. Smith and d. Ricardo deepened the topic of investment discussion and for the first time formed the parameters of the investment model of the society. The members of this school first defined the concepts of money and capital from different angles, highlighted the importance of capital accumulation in the formation of investment resources, and the role of credit money in the development of investments became the subject of detailed discussion.

Commodity Life Cycle Theory by R. Vernon seeks to explain why investors want to export goods or services abroad. Vernon notes that the basis of company decisions is the best strategy, which includes three alternative ways: (R. Vernon 1966)

- Domestic production;
- Export of goods;
- Moving production abroad.

According to Vernon, the main motive for companies investing abroad is mainly the desire to avoid domestic competition in the local market.

Among the positive effects of investments should be noted the following positive effects of foreign direct investment: Technology transfer (including the use of know-how); Improving the employment rate; Economic growth (Petrikova, 2009); Restrictions on the development of local monopolies (if any), a relatively wide choice of goods and services, and so on.

The opinion of the scholars was mainly presented in two parts. One part believes that foreign direct investment has a positive effect on the economy of the host country. At the same time, according to the second part of the scientists, the exogenous positive effect of foreign direct investment on the economy of the host country is relatively weak. This is explained by the fact that local conditions may limit the country's ability to take advantage of foreign direct investment (Bengoa & Sanchez-Robles 2003).

2   Opportunities for Attracting Foreign Direct Investment in Georgia

In recent years, significant changes have taken place in Georgia to liberalize the tax regime.

In 2017, a new Estonian model of profit taxation was introduced, which was intended to simplify tax administration, ensure business development and economic growth in general. The main novelty of the Estonian model is the postponement of corporate profit taxation until the profit is distributed.

In 2016, an Association Agreement was signed between Georgia and the European Union, which provides for the political, social, economic, and institutional development of Georgia. Specifically, it addresses the following key areas: developed civil society, modernized governance, integrated trade, close economic cooperation with EU member states, improvement of the judiciary and the fight against corruption. According to the Association Agreement, it is mandatory for Georgia to adjust the national legislation, the regulations, directives, decisions, and recommendations with the standards of the European Union. The agreement is signed for an indefinite period, but the deadlines for harmonization with the relevant normative acts of the European Union are specified (Syed et al. 2019).

Relations with the EU have brought significant benefits to the country. First of all, the country's economy has strengthened and continues this trend in direct proportion to the deepening of relations with the EU, for example: in 2019, the EU was one of the main trading partners for Georgia with a 23.7% share in exports. Also noteworthy is the EU's contribution to the financing of Georgian companies, starting with training and retraining of local staff and ending with expert support to start new businesses.

Another important direction of the Association Agreement is the formation of an effective investment environment. The EU continues to fund large-scale infrastructure projects and initiatives in various economic and social sectors within the framework of the Investment Platform.

Georgia has agreements with many countries around the world on "avoidance of double taxation and prevention of tax evasion." The agreement is aimed at improving economic cooperation between partner countries and attracting additional investment. The terms of the agreement are based on the model of the Organization for Economic Co-operation and Development (OECD), which approves the rules governing the principles of taxation between the partner countries.

Foreign investments in Georgia are protected by the Constitution, the Law on Investment Promotion and Guarantees, and bilateral agreements on investment promotion and protection.

The Law on Investment Facilitation and Guarantees defines the legal basis for local investments and guarantees for their protection, according to which foreign and local investors use the same rights.

3   Factors Hindering Attraction of FDI

As for the factors hindering the attraction of foreign direct investment, we should start with the underdevelopment of the stock exchange market—the developed securities market and the stock exchange in general is one of the attractive parts of the investment formation process. The stock market occupies important positions in developed countries, although its scale is less in developing countries, including Georgia.

Table 1 Foreign direct investment quarterly dynamic in 2013–2021

GDP									
Year	2013	2014	2015	2016	2017	2018	2019	2020	2021*
Total	**1039.2**	**1837**	**1728.8**	**1654**	**1980.8**	**1317.1**	**1335.8**	**572.0**	**1152.8**
I Q	291.8	331.6	343.4	392..9	413.3	329.3	317.2	171.0	132.5
II Q	224.1	217.6	493.2	452.6	396.6	408.1	241.2	240.3	305.2
III Q	271.6	749.5	531.1	507.8	635.4	367.2	403.6	294.8	303.8
IV Q	251.6	538.0	361.0	300.6	535.4	212.4	373.8	−134.2	411.3
FDI to GDP Ratio	6.0%	10.4%	11.6%	10.9%	12.2%	7.5%	7.6%	3.6%	6.2%

The important advantages that characterize the development of the stock exchange market are known. First, companies are expanding the capital market and are not just dependent on bank loans and direct investment. They are given the opportunity to sell their share and thus attract additional capital. On the other hand, the population has a desire to save money and buy shares. Residents also realize that even the owner of a symbolic one lari can become an investor. We know from the principles of economics that the greater the propensity to save in society, the more investment is made and the growth rate of the economy increases (Charaia et al. 2020).

2020 started with a universal challenge for the world—the Covid 19. The scale of the pandemic was so wide that it covered the whole world. Also, the rapid spread of the infection at the beginning of the year caused a change in the rhythm of life and affected the world economy.

The exact economic damage caused by the virus has not yet been calculated and the pandemic itself has not yet been defeated.

Amid the COVID-19 pandemic and respective restrictions, the economic situation, including investments, faced strong uncertainty in 2020–2021. As a result, investment volume in Georgia decreased significantly, particularly in 2020. However, the sharp drop in foreign direct investments was a clear trend and a serious problem even prior to the pandemic. It is unfortunate that the country failed to implement a number of investment projects, including the Anaklia sea-port, the Namakhvani HPP and other HPPs of strategic importance. This, apart from inflicting clear economic losses, harmed Georgia's investment climate and image (USAID, 2006).

In 2021, the total volume of foreign direct investments to Georgia was USD 1.152 billion which constituted 101.5% growth as compared to 2020 and a 13.6% decrease as compared to 2019, respectively. In 2020, the total FDI was USD 572 million which was 57.1% less as compared to 2019. Of note is that in the fourth quarter of 2020, the FDI figure was negative, meaning that outgoing investment flows exceeded incoming investment flows. This was the first time since 1995 (as part of the existing statistics) when the quarterly FDI was negative (Table 1).

4 Impact of Foreign Direct Investment on the Economy of the Recipient Country

The main reasons for the decrease in foreign direct investment are the completion of the British Petroleum main gas pipeline project, reduction of liabilities of non-resident investors/repayment of loan debts, and reduction of non-residents' share in the ownership of several enterprises (Table 2).

Since 2014, investments in GDP have been growing and reaching the highest level. It reached 11.6% in 2015 and 12.2% in 2017. However, as a result of the depreciation of the national currency, GDP in dollars decreased in 2015–2016, and this led to an increase in the ratio of investments. At the same time, according to data for 2019, the share of foreign direct investment in GDP was 7.4%.

The shares of major foreign direct investor countries in FDI stand as follows: The United Kingdom (51.8%), Netherlands (10.9%), and Czech Republic (7.1%) (Chart 1).

It should also be highlighted that in the past years, FDI was coming from off-shore zones such as Panama, the Marshal Islands, etc. These countries also benefit from a preferential taxation system. Generally, it is a common practice in the world when business representatives carry out their work through off-shore registered entities which brings a number of benefits to them such as tax evasion, reduced transparency (information on off-shore-based companies is not included in the public register), etc. It is assumed that Georgian nationals are behind the investment flows from off-shore locations to Georgia; that is, technically they are categorized as foreign investment which naturally is far from truth. In 2020, in the case of Panama alone, USD 209 million was withdrawn from Panama which substantially affected investment figures (Chart 2).

Among the sectors of the economy, the financial sector has not given up leadership for years, which is one of the signs that the financial sector is the most developed in Georgia. Data from the financial sector also include data on foreign direct investment in banking, microfinance, and insurance organizations.

The share of three major economic sectors in FDI reached 76.1% in 2022. The largest share of FDI was registered in the real estate sector, totaling USD 443.3 million, entertainment, recreation, and other services sector was the second with USD 230.5 million, followed by the energy sector with USD 157.0 million

5 Research Methodology

As for the research methodology, in order to investigate the impact of foreign direct investment on the local economy, a survey of companies created with Georgian-foreign equity participation was conducted, where foreign direct investment was made during the last 5 years. The list of companies and their contact information is provided by the National Statistics Office of Georgia. Online and telephone survey

Table 2 Share of foreign direct investment in GDP% (Geostat)

Georgia, GDP and FDI

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
GDP (Million US Dollars)	12 241.4	15 111.6	16 488.8	17 189.3	17 625.5	14 948.2	15 141.7	16 248.5	17 596.6	17 736.6	15 850	18.7
FDI (Million US Dollars)	865.6	1134	1048.2	1039,2	1837	1728.8	1652.6	1978.3	1306.3	1310.8	572	1152.8
Foreign direct investment Share in GDP%	7.1	7.5	6.4	6	10.4	11.6	10.9	12.2	7.4	7.4	3.4	6.1

**Largest Investment Countries in 2021
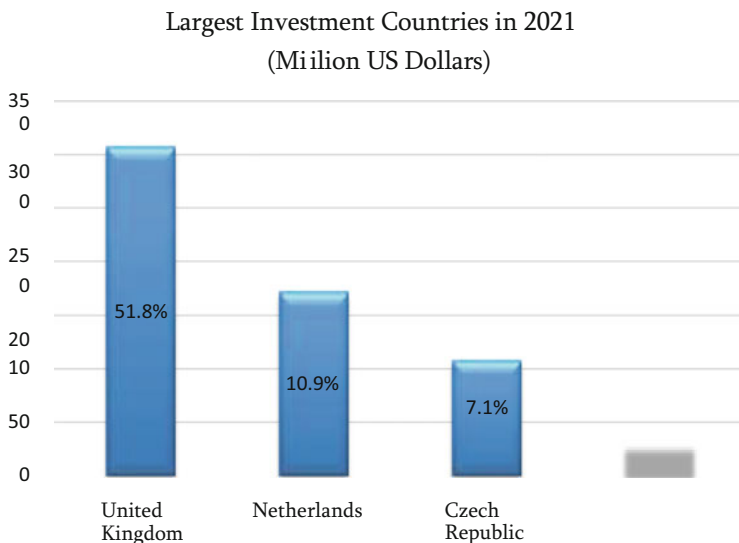(Miilion US Dollars)**

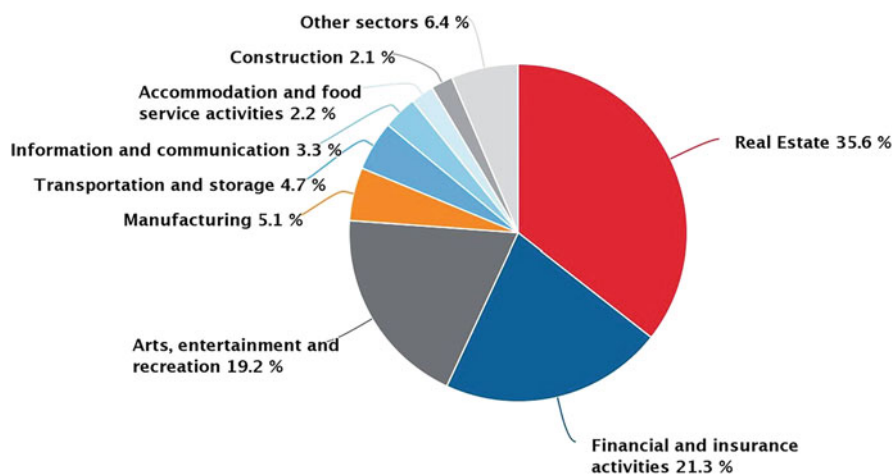**Chart 1** Share of the largest investment countries in 2020 (Geostat)

Chart 2 FDI by the largest economy sectors (Geostat)

Table 3 The main obstacles named by investors

The main obstacles named by investors	Min	Max	Mean	Standard Deviation
Macroeconomic instability (inflation, exchange)	0	4	2.34	1.54
Unskilled labor	0	4	1.82	1.63
Unstable political environment	0	4	1.7	1.34
Legislative space inefficiency	0	3	1.26	1.21
Outdated technologies	0	2	0.96	0.83
Insufficient infrastructure	0	3	0.9	0.99
Insufficient access to land	0	2	0.54	0.70
Labor Code Regulations	0	2	0.7	0.61
Corruption	0	2	0.64	0.77

methods were used during data collection. A total of 50 organizations were interviewed, with a 95% confidence interval of 10%. The questionnaire consists of 20 questions, which are presented in four main parts:

(1) General information about the organization and its activities;
(2) Motivations of foreign direct investment and factors affecting it;
(3) Obstacles created during the implementation of foreign direct investment;
(4) Opportunities for innovation by companies created by foreign direct investment.

The analysis of the answers given by the investors shows that the problematic issue for multinational corporations in the country is macroeconomic instability and unskilled staff, followed by an unstable political environment, instability of the legislative space, outdated technologies, and more (Table 3).

Unfortunately, macroeconomic instability has become a major problem for the Georgian economy and investors, especially in recent years. Planning for budget, prices, salaries, logistics, and other factors has become problematic. The devaluation process started in 2014, further complicating the situation with the devaluation of their local currencies by major trading partners (Turkey, Russia, Ukraine, Azerbaijan, etc.).

Access to qualified personnel is named as the second biggest obstacle. Although the problem has been known for years, there has been no significant improvement in educational field (Table 4).

From the results we see that a lot of attention is paid to the simplicity of doing business and Georgia occupies a leading position in this regard in international rankings (Table 5).

In this table we have one dependent variable (export) and it is defined on a scale of 0–4. As can be seen from the data, FDI has a positive effect on export growth, which supports the view that natural resource-seeking investments typically choose low-tech and medium-low-tech as well as traditionally export-oriented industries for capital investment.

As for the efficiency-seeking FDI which refers to cheap and skilled labor, these variables also have a positive effect on export activity, which confirms the opinion in

Table 4 Average rates of foreign direct investment motivation identified based on investor assessments

Motivations	Number of OBS	50		
Mean Estimation	Mean	Std.Err	[95%. Conf Interval]	
Ease of doing business	0.36	0.685714	0.22220	0.4977
Less taxes and customs tariffs	0.34	0.676727	0.20400	0.4759
Cheap production factors	0.3	0.654654	0.16844	0.4315
Untapped market	0.24	0.610119	0.11739	0.3626
Cheap labor	0.22	0.059178	0.10107	0.3389
Highly skilled workforce	0.2	0.057142	0.8567	0.3148
Natural resources	0.16	0.052372	0.54753	0.2652
Know-how/Strategic assets	0.14	0.049569	0.40386	0.2399
Less transportation expenses	0.12	0.464231	0.26709	0.2132
Increased demand for Georgians	0.1	0.042857	0.13875	0.1861
Increased demand from Georgian users	0.8	0.038756	0.00211	0.1578

Table 5 Impact of foreign direct investment motivations on export

Ordered Probit Regression			
Export	Coef.	Std.Err	P>z
Ease of doing business	0.45181	0.3895	0.246
Less taxes and customs tariffs	0.48870	0.4183	0.243
Cheap production factors	−0.7893	0.4178	0.059
Untapped market	0.07099	0.4520	0.875
Cheap labor	0.33045	0.4438	0.457
Highly skilled workforce	−1.13398	0.5805	0.051
Natural resources	0.31047	0.5496	0.572
LR chi2 (7)	18.69		
Pseudo R2	0.1417		
Number of Obs	50		

the literature. Even investors who decide to invest because of low taxes are less interested in export activities.

The impact of FDI on strategic assets is negligible, which was to be expected, as the advantage of location does not allow FDI, a strategic asset seeker, to make effective use of his property advantage (Table 6).

Natural resource-seeking FDI has a negligible impact on imports, which is not surprising since these types of investors use mostly local resources for industrial purposes. Efficiency-seeking FDI also has less impact on imports and the same can be said for market-seeking FDI, which is natural because market-seeking FDI, does not support international trade because the resources they want are sourced from the local economy. As for the strategic asset-seeking FDI, it has a positive impact on imports, as these types of investments are designed to invest capital in high-tech

Table 6 Impact of foreign direct investment motivations on import

Ordered Probit Regression			
Import	Coef.	Std.Err	P>z
Cheap energy	0.66245	0.5766	0.251
Less taxes	0.1540	0.4817	0.749
Less customs fees	0.8933	0.5781	0.877
Untapped market	−0.8443	0.6324	0.182
Cheap labor	−0.3191	0.4670	0.494
Highly qualified labor	−0.8798	0.5735	0.125
Natural resources	0.1627	0.6931	0.814
Strategic activities	−0.3268	0.5391	0.544
LR chi2 (8)	7.93		
Pseudo R2	0.1144		
Number of Obs	50		

industries. Consequently, high-tech products are not produced locally and are mainly imported from foreign countries (Carkovic & Levine 2002).

6 Conclusion

The paper analyzes the multinational companies operating in Georgia as the main attractors of foreign direct investment and explains their motives, obstacles, and the impact of their activities on the Georgian economy.

According to the results of the research, several conclusions can be made:

Despite the small size of the Georgian market and the limited ability of the population, foreign market-oriented direct investments have a larger share of the market. Their main focus is on the supply of goods and services to the local market and their activities do not have a positive impact on the growth of exports. Local market orientation, on the one hand, contributes to the formation of new business directions, encourages competition, which is a positive development, although the possibility of reducing the position of local organizations in the market is also high. This view is supported by the answer given by investors to the question of which partner they receive the necessary raw materials or services from. According to the results of the research, the raw materials are supplied through the local market, although the strategic ties with local companies are very weak.

The results of the research also show that multinational corporations name unqualified staff as one of the major obstacles in the country. To overcome this obstacle, the state should focus on developing an educational policy that will improve the education system and raise the quality of education. The reason for this is the incompatibility of the level of human capital development with the requirements of the modern labor market.

If a country wants to use advanced technologies, it must be ready to master modern technology, which requires qualified human capital with relevant skills in

the country. When large foreign investors consider the level of education as a determining factor in attracting FDIs, they demand from the government of the host country a high level of education in the country. In this way, the foreign investor becomes a stimulating factor in the education process of the host country.

Today, in most developed countries, their long-term socio-economic growth programs are linked to innovation.

It should also be noted that the introduction of innovative technologies affects the quality parameters of manufactured products, which increases its competitiveness in the market.

In the long run, economic growth is determined primarily by the level of investment in productive growth and modernization, as well as the planning of various research and development activities. Investments related to raising the level of education and culture, improving the health of the population and living conditions also play an important role.

7 Recommendations

The dissertation repeatedly mentioned the low qualification of the labor force in Georgia, which is a significant obstacle for investors.

To eliminate this problem, we recommend the following measures:

- Fundamental reform of the education system;
- Increase the percentage of human capital development expenditures from GDP and investment in education.
- Strengthening the entrepreneurial skills of students in educational institutions, especially at the level of vocational education.

Foreign direct investment should be invested in sectors that will focus on large-scale production of export products and will be able to sell it profitably in foreign markets. Applying foreign direct investment in the priority sectors guarantees the competitiveness of the host country and guarantees economic growth.

The encouragement of FDIs in export-oriented sectors implies the growth of foreign currency in the country, which contributes to the positive balance of foreign trade in the long run.

References

Bengoa, M., & Sanchez-Robles, B. (2003). Foreign direct investment, economic freedom and growth: New evidence from Latin America. *European Journal of Political Economy, 19*, 529–545.

Carkovic, M., & Levine, R. (2002). Does foreign direct investment accelerate economic growth? Department of Business Finance, University of Minnesota. *Journal of International Money and Finance*, 1–16.

Charaia, V., Chochia, A., & Lashkhi, M. (2020). The impact of FDI on economic development: The case of Georgia. *TalTech Journal of European Studies, Tallinn University of Technology, 10*(2), 31. ISSN 2674-4619.

European Bank for Reconstruction and Development project "Strategy for Georgia"

Georgian National Statistics Office/URL: https://www.geostat.ge

Petrikova, E. M. (2009). Foreign direct investment and economic growth. Scientific information journal - Question for statistics, No. 9.

Syed, R., Nida, S., & Imtiaz, A. (2019). Relationship between FDI and economic growth in the presence of good governance system: Evidence from OECD countries. *Global Business Review*, 1–19, © IMI.

URL: https://www.ebrd.com/downloads/country/strategy/georgia-draft-georgian.pdf

USAID. (2006, May). *Business climate reform, Attracting Foreign Direct Investment*. Tbilisi, 27. World Investment Report/URL: https://unctad.org/topic/investment/worldinvestment-report

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How to Attract Start-Ups to Boost National Economies: A German-Georgian Comparison and Case Study

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1 Introduction

There is no doubt that there is a huge impact of start-ups on the world economy and world employment. The progress of a country is determined by its ability to create new business. The economic growth of a country is a reflection of the growth of business. No economic growth is a sign of no economic activity and consequently poverty stays or grows. That is why entrepreneurs play a significant role for national economies. These individuals are usually seen as an innovator, a source of new ideas, goods, services, and business/or procedures. They play a key role in any economy. Without them the economy cannot go forward and poverty remains. These are the people who have the skills and initiative necessary to anticipate current and future needs and bring good new ideas to market. According to Schumpeter, an entrepreneur is someone who implements a new mixture of means of production. A successful entrepreneur is the one who brings resources, labor, materials, and other assets together to make value greater than before (Block et al., 2017). Due to these entrepreneurs, many start-up companies started to appear. As cited in The Oxford English Dictionary, the term start-up, in the business sense, is first recorded in 1976 in Forbes "The unfashionable business of investing in start-ups in the electronic data processing field" (Simpson & Weiner, 1989). "Start-up company" arrived a year later in 1977 and was mentioned in Business Week "An incubator for start-up companies, especially in the fast-growth, high-technology fields" (Business Week,

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1977). Since the 1970s, the whole concept and functionality of start-up hub centers has changed, and it is constantly growing and developing. Many of today's most successful companies began as start-ups—Facebook, Amazon, eBay, Apple, Microsoft, and others. So what is a start-up and why is it so important for the national economies?

2 The Notion of a Start-Up and Its Main Characteristics

Start-up is defined as a newly formed company, the purpose of which is to develop new, usually innovative products or services in uncertain circumstances. If it satisfies a new need, present in a broader area or even globally, it also has great growth potential. Start-up entrepreneurship is crucial because of innovations, new jobs and bringing competitive dynamics into the business environment.

A start-up is not simply a newly founded company, but instead has a more complex definition. Start-ups generally operate in new and unsaturated markets that often have their roots in digital or technological fields. These businesses are entrepreneurial in spirit and seek to grow rapidly through innovative ideas and precise implementation of strategic business methods.

"Although start-ups can be companies from all industries, in practice they are often active in the technology and internet sector. Typical sectors are e-commerce, application software, financial technology, biotechnology, nanotechnology, new manufacturing processes, industry 4.0 or aerospace technology." (Sadler, 2022).

"Start-ups are essential because they break molds, fix problems, and empower individuals to build the future. They provide society with fresh innovations and services, which are often highly relevant to the world's needs. Without cutting-edge start-ups, mankind would be stuck using typewriters at photocopying machines." (Jabarin, 2022).

Some of the most significant characteristics and benefits of Start-ups are as follows:

- Start-ups are innovative. They thrive on new and ever-evolving ideas. They are built on creativity and therefore ideas derived within the start-up environment are often ahead of the market.
- Because they are small and often have low overhead, start-ups have the ability to adjust rapidly to changing market trends.
- Start-ups offer a flexible work environment with flexible hours and place of work. The work setting is often informal.
- Start-ups encourage participation and business decision-making at all ranks.
- Heavy focus is placed on collaboration and teaming. This encourages a feeling of empowerment and heightens motivation which in turn leads to increased productivity, creativity, and innovation.

3 Role of Start-Ups for Economic Prosperity

Start-ups have become the cornerstone of modern business. They have been essential in creating economic prosperity through innovation, job creation, and fostering healthy business competition. Many technological advancements in recent history have been attributed to start-ups. Often burning cash in the beginning only to become the dominant player in an industry, disrupting existing and creating new services, companies such as Airbnb, Uber, and others have become household names.

Start-ups act as magnets for the best and brightest thinkers, the most creative ideas, the most ingenious solutions. They attract talent and create jobs. By nature of their rapid growth, they are attractive to investors and have the potential for immense profitability. They inspire other businesses to stay competitive, leading to better products or solutions for the customer.

Start-ups tend to be more customer centric, leading to more demand as customer satisfaction increases. Further this leads other companies to follow suit, improving customers satisfaction across all industries.

Due to small size and flexibility, start-ups have the ability to focus on niche markets or to improve upon existing products or processes. They have helped make existing products better, more efficient and more profitable. They have often helped other businesses to streamline their own processes by developing custom solutions.

Start-ups often focus more heavily on ethical standards such as environmental impact. This leads to an overall shift in trend among other businesses and an overall improvement to the environmental impact of industry.

Because start-ups create jobs and attract some of the best talent, they also have a significant impact on the geographic area in which they are located. There are many areas across the globe that have seen significant economic development and improvement due to being the home of many start-ups. Thus, start-ups do not only directly impact the industries in which they operate but also impact industries such as housing and building, entertainment, education, consumer goods. Examples of this effect can be seen in Silicon Valley, the Pearl River delta and Bangalore, to name a few. Therefore, although a single start-up company may be small, its economic impact and contribution are far greater than its parts or turnover.

"Start-ups improved employment patterns providing job opportunities to both experienced and young professionals. This led to surge in inflow of graduates and relocation of experienced professionals from different cities." (Parvez, 2018).

Furthermore, most developed countries in a knowledge-based society encourage start-up entrepreneurship from the aspect of investment into the future as well as from the aspect of actively designing long-term economic policy.

3.1 Five Key Reasons Why Start-Ups Are Important for the National Economies

Innovation—Innovation is the foundation of most start-ups. Innovation is extremely important for the growth of national economies because it helps existing processes improve while also creating new and more effective solutions to existing problems. Economies rely on start-ups to lead the charge in technological advancements as well. Large and more established companies may also rely on start-ups to find ways to improve their existing processes.

Job creation and economic impact—Start-ups play a significant role in creating new jobs especially for the skilled workforce of new college graduates. The industry of start-up enterprises is an ever-expanding industry due largely to the fact that it is very innovations based. The nature of innovation is that it is infinite. The economic impact with regard to employment and job creation of start-ups is thus extremely significant.

Increased economic competition—because start-ups are highly innovative and adaptable, they can react to market trends quickly. This means increased customer satisfaction and demand. Other companies are subsequently more likely to improve their products and processes to keep up. Overall, a healthy economic competition is created which leads to better products and services.

R&D—The start-up environment is focused on research and development. Start-ups often are located near prestigious universities and research institutions (ex. Silicon Valley—Stanford University) because like such universities and research institutions they understand the impact on innovation and technology, that research and development have. Also, start-ups can so benefit from a constantly replenishing pool of graduates and talent—and vice versa.

Start-ups provide an environment that allows for creative thought, collaboration, and employee empowerment. Thus, start-ups can promote changes in the mentality of the workforce, and also employers in general. The workforce becomes more proactive and effective.

In summary, start-ups are important to the economy and offer many opportunities, and they also create jobs for people who may not be able to find work elsewhere. Start-ups need funding, but there is no shortage of investors looking to get in on the ground floor. With all these factors combined, it's easy to see why start-ups are such an integral part of our country's economic growth.

4 Why Germany Provides an Ideal Setting for Start-Ups

Germany has become increasingly more significant, especially within Europe, in the area of start-ups. Many start-ups that were founded in Germany have achieved international success. Some examples are Zalando, Flixbus, and HelloFresh.

"In 2019, the country was ranked number one in Europe for start-ups by NimbleFins. EY (Ernst and Young) reported that Germany's top 100 start-ups received a total of $11.1 billion in funding in 2019, a significant increase from the $6.3 billion reached in 2018." (Hak, 2020) In 2020, Germany has been ranked as the best European country for start-ups for the second year in a row.

While start-up ecosystems across the globe have taken a hit during the pandemic, there are already signs of recovery across Germany's start-up scene, from the creation of new accelerators and venture capital firms to multi-million euro funding rounds.

4.1 What Allows Start-Ups to Be Successful in Germany?

4.1.1 The Establishment of Digital Hubs

Unlike other European countries, Germany benefits from being home to not one but multiple digital hubs. Each city that acts as a digital hub has specialized in its own technology based on the resources that are provided by the specific geographical location. The disbursement of these digital hubs throughout Germany has made it easier for start-ups to thrive all over Germany and not only concentrated in one specific location. Start-ups can thus benefit from having a choice of which specialized talent they engage, how much they will need to spend on salaries and rents, what research institutions are accessible based on their location etc.

There has also been a recent trend towards collaboration between various hubs to create even more specialized resources.

4.1.2 Collaboration amongst Various Hubs

Exhibit 1 provides an overview of the main start-up hubs in Germany and shows the different regional focuses.

4.1.3 Access to Industry Leaders

Germany's digital hubs have connected innovative and agile start-ups with more traditional big industry names. Most of Germany's major behemoths, including BMW, Bayer, Siemens, and Daimler, have established their own corporate venture arm to scout local start-up talent. "Germany has the most active corporate venture investors in Europe, 91% of all non-IPO exits in 2019 were related to corporates. Still, corporations only spent 0.1% of their revenue on external innovation, so there is room to grow." (Banholzer, 2022).

Germany created a program called the Digital Hub Initiative which is intended to facilitate collaboration between businesses and start-ups. It is also intended to
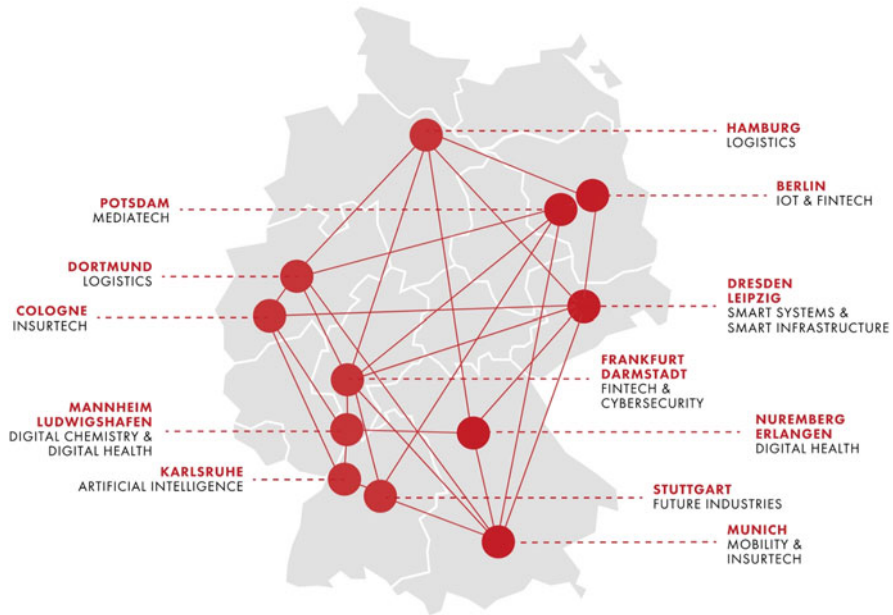
Exhibit 1 Startup hubs in Germany (BMWi, 2022)

improve talent scouting. "Start-up Finder" is an online database that was created as part of the Digital Hub Initiative and allows potential partners to filter and search through a list of start-ups based on varying criteria.

In economic environments that are negatively affected by the pandemic and slowing growth, these partnerships not only support the status quo, they are essential to bringing economies back on track. Start-ups need to recover capital lost during the lockdown period. At the same time, large corporations need to accelerate their digital transformation as quickly as possible to prepare for an uncertain future—this is a classic win-win situation.

4.1.4 Leading in Deep Tech Solutions

While different hubs specialize in different industries, Germany has placed a particular focus on fostering the growth of deep tech. The country ranks third place globally for the highest number of deep tech start-ups, after the US and China. Artificial intelligence, machine learning, logistics, mobility, and IOT (Internet of things) are some of the country's main strengths. Universities and research institutes are spread across the country and provide a place for innovation, entrepreneurship, and talent to grow. Centers such as the Fraunhofer institute help researchers develop their ideas into a viable business plan. Numerous universities have special

entrepreneurship centers that encourage technical students to consider the entrepreneurial route and turn ideas into businesses.

4.1.5 Access to Funding

The German government has made access to funding more attainable by setting up various grants that are available to start-ups "During the lockdown, the government introduced a €2 billion state aid package to keep struggling start-ups afloat. It also provided a 100% guarantee to all loans up to a maximum amount of $540,000 for small businesses with fewer than 50 employees, and a maximum guarantee of $868,000 for larger ones." (Kutzniezova, 2020).

4.1.6 Challenges within Germany's Start-Up Environment

One of the main challenges facing German start-ups is the lack of domestic funding opportunities. Due to the requirement of deep tech start-ups for larger than typical cash requirements, many investors in German start-ups hail from outside of Europe (mostly from US and Asia). This allows for a dependency on foreign funding that could easily be impacted by economic downturns within those respective economies.

5 The German Start-Ups in Numbers

The number of start-ups, defined as start-ups as being younger than 10 years, highly innovative in terms of technology and/or their business model aiming for significant growth in revenue and employee numbers (not including one-person companies and small traditional business) was at 70,000 in 2019. 30.5% of German start-ups were in the information and communication technology industry.

German states varied in their start-up density. Based on recent data, North Rhine-Westphalia had the highest number of start-ups on its territory, followed by Berlin and Bavaria. Berlin-based start-ups received the most funding for entrepreneurship. With information and communication technology booming, fintech is another German start-up stronghold. Many more start-ups have been created during the pandemic.

A total of 3348 new start-ups were founded in Germany in 2021, according to an evaluation by Start-up detector—an increase of 11% compared to 2020. After the first Covid-19 lockdown in March 2020, the number of start-ups plummeted, but recovered by the end of 2021. "At a strong level of just over 800 start-ups per quarter, the numbers seem to be stabilising" researchers at Start-up detector said (Start-up detector, 2022).

Start-ups are an important economic power of the future. However, substantial potential still remains untapped. This applies, for example, to the area of spin-offs from universities or research institutes. Despite an outstanding research landscape, it is often difficult to transfer research results into marketable products.

As well as new start-ups, the number of companies that were able to attract external investors such as venture capitalists rose by 27% to 2087 last year. However, this still does not come close to the financing amounts in other countries. Despite the positive development of investment figures in recent years, Germany is clearly behind not only the USA, but also countries like Sweden or the UK in terms of investment per capita.

5.1 Berlin Remains the Start-Up Capital: But Growth Is Everywhere

As in previous years, most start-ups were founded in Berlin in 2021: with 747 companies, around 22% of all new German start-ups were created there. In Berlin in particular, the start-up ecosystem that has matured. It consists not only of founders and investors, but also of highly qualified employees, universities and colleges, and is now able to fuel itself from its own momentum. But other German federal states grew faster. According to the analysis, Baden-Württemberg (with an increase of 21%), Lower Saxony (plus 30%), Saxony (plus 54%) and Saxony-Anhalt (plus 166%) recorded particularly high growth. (Start-up detector, 2022).

With 108 newly founded start-ups in 2021, Saxony is the front-runner among the Eastern German states, where the start-up rate is comparatively low.

The evaluation of start-ups at the district level also shows a remarkable start-up hotspot: the district of Starnberg in Bavaria tops the list ahead of Berlin with a density of 20.5 new start-ups per 100,000 inhabitants. "The companies from the Starnberg district are diverse: from the regional fresh food courier Regioluzzer to Servail, whose robots maintain railway tracks, to The Exploration Company, whose founder Hélène Huby wants to build a spaceship," the analysts at Start-up detector said. (Start-up detector, 2022). The district southeast of Munich, which is home to stunning views of the lake and mountains, is one of Germany's wealthiest.

In terms of market sectors, software, medicine, and e-commerce continue to dominate the start-up scene, but things are changing. "The presumably pandemic-driven e-commerce boom of 2020 seems to be slowly subsiding, however, as a slight decline can be seen in this industry," the report says (Start-up detector, 2022).

Because start-ups are leading the market in areas such as product improvement and customer service, other companies are forced to follow suite to stay competitive. This leads to structural improvement within established businesses that in the end is beneficial to the consumer. The start-up industry is represented by persons of varying economic, cultural and national backgrounds, which can only be seen as an asset, as varying backgrounds promotes opportunities to see different perspective and to find

more creative solutions. Start-ups do not yet fully take advantages of the roll women in the can play workforce. Start-ups could benefit from actively targeting more female employees in order to gain a more well-rounded perspective on ideas and innovation.

6 Case Study CleenR

A founder of a start-up must become someone he has not been before and to deal with situations that he has never experienced. The combination of resources, especially human resources matched with investors' capital is the nucleus that creates the spark for a new idea to ignite and gain traction. In the following chapter we discuss the importance of these factors during the founding of CleenR, a Berlin-based cleantech company. The start-up funding vehicles and subsidies presented in Exhibit 2 were investigated. BAFA is almost a must now for an innovative angle-funded company. Regional grants incentivize the location of setting up in a specific community and ecosystem.

6.1 Founding of CleenR

CleenR was founded in Berlin in January of 2021 where there is vast access to funding, to a global talent pool and to like-minded founders who would support the endeavor to build a start-up company at the intersection of sustainability and artificial intelligence. The founder, Victor Fischer, had done prior market research on the topic of ocean plastic and single-use plastic regulations in the European Union. The challenge was to find AI talent in this area to apply new object detection and image recognition technologies for the analysis of municipal litter. At the time of the founding, there already were companies active in the same field of smart city

Name of the institution	Ranking in terms of deals	Volume of the programme for each single deal
BAFA (government agency)	#1	From 20k to 200k (20%) kickback for angel investors
HTGF (high-tech founder fund)	#2	500k+ in convertible loan (against 15% equity stake)
IBB (regional vehicle in Berlin)	#3 (local)	200k+ in company subsidies (50% matching funding)
VTGF (ventures founder fund)	#4 (new)	>1,5 Mio. matching facility during fundraising round

Exhibit 2 Startup funding vehicles and subsidies. Source: (HTGF, 2021; BAFA, 2022; IBB & KfW website retrieved in 2022)

technology. This helped to attract investors and employees, as well as subsidies. Cleenr's vision is to create a cleaner future for cities around the world, especially in Asia, where huge agglomerations cause the overflow and spillage of litter and trash into the rivers along with debris washed away by rain. The European Union with its vast arsenal of subsidies will serve as a catalyst for this movement. New technologies such as AI are already being used by researchers to document the catastrophic effect of single-use plastics onto the environment (DFKI, 2022).

6.2 Smart Litter Management

Artificial Intelligence improves the efficiency and transparency of municipal cleaning efforts and inner cities more attractive. Beverage cups, chewing gum, cigarette butts—inner cities, playgrounds, and other meeting places have been littered with discarded small rubbish for decades. The corona pandemic led to a further increase in littering from discarded mouth and nose masks, the trend towards takeaway and the compulsion to increasingly move activities outside. The negative consequences for residents, children and the attractiveness of cities are clearly visible. The effects on the environment and the dangers for people and nature, caused, for example, by the pollution of the groundwater, are devastating. The cost of cleaning up this litter from our cities takes up an ever-increasing chunk of tight municipal budgets.

6.3 The Smart Waste Technology

The dramatic consequences caused by thrown away plastic waste have been known for a long time and it is confirmed that wherever people are, they leave waste behind. This challenge can be met with further increasing investments in traditional cleaning methods—or by using modern analysis methods. This is what start-up entrepreneur Victor Fischer from Bad Soden am Taunus thought when he founded CleenR as a spin-off of Sauber.io GmbH. CleenR envisages to support municipal cleaning companies in the fight against litter through digitization and the application of artificial intelligence (AI) by providing relevant data for the essential topics of efficient resource planning, litter analysis and the implementation of the polluter pays principle.

The core of the technology is a camera system that can be attached to a hand-held vacuum cleaner (also offered by CleenR) but also to sweepers or other cleaning equipment in the municipal fleet. The AI-based software recognizes small pieces of waste such as cigarette butts, bottle caps, or plastic straws. The camera recordings also offer the option of storing the location, time, and number of pieces for each category of waste that was detected while the sweeper was moving over it. Pure object detection has been enhanced with object tracking technology to avoid double

counting. As a result, the municipal cleaning companies receive reports and evaluations of where, when and in what quantity the litter was removed.

"We are all facing the challenge that municipal companies have to make do with limited time and financial resources for cleaning, but at the same time have to fight against a rapidly growing mountain of rubbish. AI can contribute to gaining more transparency about the type and location of waste generation by determining and precisely counting the litter. In addition, the efficiency of individual measures can be monitored by comparing the data over time. This database can be used to measure cleanliness in order to identify trends at an early stage," says Victor Fischer.

6.4 Learning Content and First Results of the Pilot Projects

Pilot projects in 2 Hessian cities have already shown the potential of the technology and provided essential information for further improvements in the application on the road and the subsequent data analysis: It is particularly demanding that the software has to learn to identify types of waste from moving images without a margin of error. The pictures are taken from different perspectives and distances, depending on whether the camera is attached to a sweeper or a hand-held vacuum cleaner. Only pre-trained model combinations of garbage type, distance and perspective are recognizable for the AI. Deviations from the model mean that these types of waste are overlooked. For example, some heat-not-burn products have recently found their way into the litter of cigarette butts. These differ in length and color from traditional butts, as the smoked portion does not disappear as ash and exemplify the challenges of litter tracking technology.

If the camera system recognizes the type of waste collected, a data record is created, including time and place of collection. The GPS display proved to be particularly relevant in the municipal pilot projects, as hotspots became visible through AI. In Frankfurt am Main, it was shown that most of the litter is created next to the so-called "garbage garages," which can even accommodate pizza boxes, which led to more efficient route planning. The temporal analysis, on the other hand, makes it possible to identify trends in the formation of litter and to adjust cleaning intervals accordingly.

6.5 Transparency as a Prerequisite for Efficiency and Implementation of the Polluter Pays Principle

Efficiency is a very important challenge for municipal cleaning companies, in terms of time and money: In many places, people are already busy working on the city cleaning of the future. From self-propelled street sweepers to garbage collection robots, everything is being tried. Modern sweepers remove most of the street rubbish

and electric leaf blowers can be used to sweep up rubbish, shards, butts, and leaves even in hard-to-reach places, such as under parked cars, so that the sweeper can then effortlessly pick them up. Nevertheless, the cost pressure remains enormous and leads to increasingly demanding cost and time specifications: where three hand sweepers used to be used, today only one is on the move. In addition, the timing is tight. There is only a minute to clean a bus stop, and waste bins can be emptied in a few seconds.

Despite all efficiency efforts, the costs of waste disposal are constantly increasing and the disposal of plastic litter in particular represents a huge challenge—in Germany, it costs an average of 9 euros per inhabitant, i.e., around 700 million euros per year (VKU-INFA, 2022). Money that could be of great benefit in other areas of use in cities and communities. The EU may have thought something similar when it strengthened the causation principle in waste disposal with the introduction of the plastics directive. From 2023, the manufacturers of plastic packaging and cigarettes are to share in the disposal costs that municipalities incur as a result of litter. Ultimately, the collection of litter, the analysis and monitoring of the activities and the collected plastic waste as well as awareness-raising measures to avoid litter are to be financed by the companies responsible.

However, due to the lack of data, it is currently not possible to precisely allocate the costs incurred, from the collected litter to the relevant producers, and this is at best based on random samples and extrapolations. CleenR's AI-supported technology can also be helpful here, and especially here: The littering evaluations serve as a data basis for cities and municipalities, which they can use to clearly demonstrate the amount and type of all waste. In addition, the GPS coding shows the location of the waste collection, which has a significant impact on the effort involved in collecting it. Photos and the often frightening numbers of cigarette butts collected in a day, for example, can be used well for city-related awareness-raising activities.

6.6 Outlook and Dissemination

At a time when we see how rapidly inner cities are changing, there is no question that modern technologies such as AI will play a decisive role in the development of the smart city. It is important to understand that AI is not a jack of all trades and will complement, not replace, the work of municipal cleaning companies. Only experts with many years of experience understand the context of the data generated by AI and can initiate and implement efficiency-enhancing measures.

Nevertheless, AI can provide valuable help, especially for the timely implementation of the European single-use plastics directive, which aims for a performance-based distribution of manufacturer participations on the basis of transparent data, proven measures and verifiable allocation principles. Or in the words of start-up founder Victor Fischer: "If we succeed in making city cleanliness measurable, then performance-related incentives, such as those provided by the EU with the introduction of manufacturer participation in cleaning costs, can increase the urgently
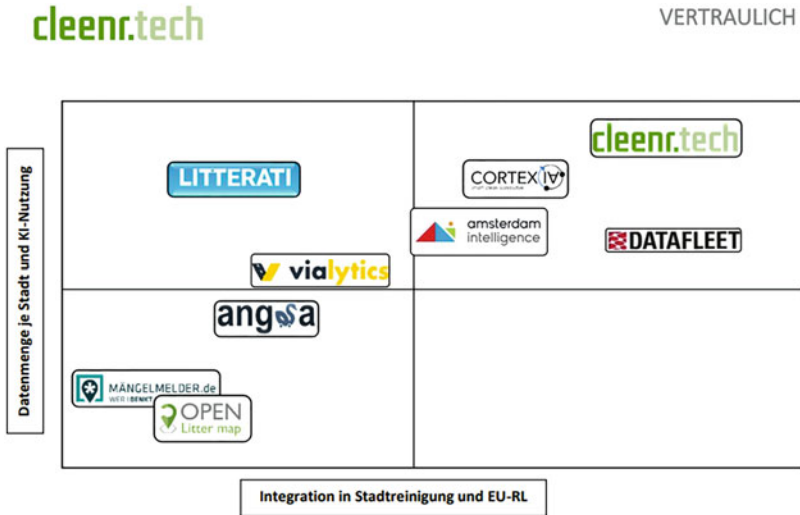
Exhibit 3 Positioning of CleenR in the competitive landscape

needed increase in funds. Cities that tackle litter in a planned, effective, and efficient manner win the competition for pots of producer participation. And litter-free, clean cities are becoming more attractive for residents and visitors."

CleenR is embedded in the German and European start-up cosmos. Exhibit 3 shows CleenR's positioning in the competitive landscape, where it intends to move into a leading position regarding the data volume per city and the use of artificial intelligence and the integration into city cleaning and EU regulations. Various funding options were explored after the decision was taken to start the company. Discussions with HTGF (Fonds III) led to the conclusion that another program from IBB (ProFIT) would be more suitable for the technology of CleenR. The funding offered by HTGF would have EUR 500,000 at an interest rate of 15% structured a debt-equity swap. IBB offered a mirroring of up to EUR 200,000 equity. This means that when the founders or investors inject EUR 200,000 into the company, IBB would match the amount, doubling the available liquidity. In the end, a founder's bonus of EUR 50,000 was approved.

BAFA supports risk capital offering grants for angel investors. The BAFA program is highly sought after, and the terms deteriorated in 2021 and 2022. In the case of CleenR, investors received grants of 20% for direct equity investments and 10% for investments via convertible loans. Despite lower subsidies, convertible loan investments are often chosen because formal requirements are initially lower than during the direct participation in an investment round, that is executed via notarial deed. Within the first 18 months of its existence, CleenR could secure sufficient external funding with a founders' bonus and cash injections from two angel investors that also accepted advisory board positions.

7 Environment for Start-Ups in Georgia

Georgia's and Germany's economies differ substantially in size and strength, as presented in Exhibit 4. In 2020, Germany's GPD per capita exceeded Georgia's GDP per capita by more than factor 10. At the same time, average monthly salaries in Georgia are less than 10% of Germany's average.

At first sight, labor costs should make Georgia attractive as start-up hub. Also, due to the relatively low GDP, the impact of start-ups on the national economy has the potential to be substantial. The investments into start-ups in Germany reached EUR 17.4 billion in 2021. This amount exceeds the annual Georgian GDP.

"In Georgia, still, there are not that many start-ups that are known worldwide. However, there is an initiative—both from the entrepreneurship side and from the side of the government and non-governmental organisations." (Yushkevitch, 2019).

From a general point of view, the attractiveness of any country or region in the world for start-ups is determined by the following criteria:

- Reliable infrastructure (from internet to living conditions)
- Qualification level of and availability of workforce
- Stability of the banking system
- Low level of taxation
- Ease of business registration and bureaucracy
- Low level of corruption

Georgia is at the sixth position of the world bank's ranking for the ease of doing business in 2019 and at the 16th position of the European Chamber's ranking for the best countries for business. In Global Information Technology Report (GITR), in 2019 Georgia is at the 66th position out of 140 countries participating in the ranking, up from position 88 in 2011. In the Global Innovation Index, Georgia was ranked 69th out of 129 countries in 2017. In 2019, Georgia is ranked 48th in the same ranking. (Yushkevitch, 2019).

Economic Data Comparison

	Georgia 2020	Germany 2020
Population (million)	3,7	83,2
GDP (USD billion)	15,9	3.850,0
GDP per capita (USD)	4.275,0	46.252,7
Life expectancy at birth (years)	73,3	81,0
Average monthly salary (USD)	303,6	3.727,3

Exhibit 4 Economic data comparison—Georgia and Germany

With a better than world average country rating across different rankings, access to funding and individual support are important factors for the attractiveness of Georgia as a start-up hub. The main sources of funding and support are:

- Specialized programs by banks and other institutions in collaboration with the Georgian government and international organizations
- Venture capital investors
- Business angels

Noteworthy examples of special programs are:

- "Start-up Georgia" program: launched in 2016, initiated by the Ministry of Economy and Sustainable Development of Georgia, Georgia's Innovation and Technology Agency (GITA) and Partner's Fund of Georgia
- USAID Program "Growth in Georgia"
- "Produce in Georgia" program
- GENIE program of the National Innovation Ecosystem of Georgia, initiated by the World Bank and started in 2018

The impact of the above programs on the development of start-ups in Georgia can be partly assessed by the number of supported start-ups and the investments granted by the programs. The "Start-up Georgia" program was initially started with a funding facility of USD 5000—and has received more than 3000 applications within the first 3 years of its existence. This ratio indicates that the interest in this program by far exceeded the funding capacity. The sheer number of applications shows the entrepreneurial spirit of potential founders.

The "Produce in Georgia" program offers funding for entrepreneurs in a range between USD 2800 and USD 8000 (Yushkevitch, 2019). To compare these numbers with funding opportunities in Germany, they have to be put into relation using GDP data and average wages. Typically, founders in Germany can receive a monthly non-refundable lump sum payment for each active founder between EUR 2000 and EUR 3000 for a duration of 1 year. On average, this equals 70% of a standard German monthly salary. The respective Georgian monthly salary is USD 300 in 2020. 70% of the average Georgian salary then is approximately USD 200—so USD 2800 (the minimum funding of the "Produce in Georgia" program) approximately matches the monthly lump sum payment for one active founder in Germany, although the absolute numbers seem rather low in comparison.

The GENIE program supported 20 start-ups out of 135 applications within the first year of its existence with a total amount of USD 38,000. The amount per start-up again is relatively low on an international scope, but compared to personnel costs in Georgia, the impact can be substantial.

Apart from access to funding, start-ups are attracted by other types of support, ranging from coaching and networking to infrastructure and office space. In this regard, the start-up ecosystem of Georgia has developed substantially in recent years and now offers a variety of options.

The following list exemplarily includes important resources for founders and start-ups in Georgia:

- Spark platform (consulting and support for business planning, financials planning etc.)
- Start-up Factory by Georgian University (electronics and engineerings laboratories)
- University incubators like Free University, Ilia State University, Georgian Technical University
- Batumi Business Incubator (UN development program)
- Faster Capital (international incubator and accelerator, offering mentoring and co-ventures)
- Start-up Grind Tbilisi (branch of Start-up Grind, world's largest independent start-up community)
- Caucasus University Accelerator (mentoring, planning support)
- Fabrication Laboratory (FabLab)—technical infrastructure and support
- Business and Technology University Entrepreneurship Center (focus on internationalization)
- Media Lab (bringing together start-ups, companies and organizations)

These resources have in common that mentoring, planning help, networking and infrastructural support are provided, while for the most part access to funding and investment is not offered directly.

There are also programs from banks like the Bank of Georgia Program and the TBC Business Program. Still, access to funding remains challenging for Georgian entrepreneurs. For the most part, founders will depend on private investors, venture capitalists, and angel investors. International investors often focus on the start-up cosmos of hubs like Berlin where they already have an existing network. Business angels and small investors received direct financial support from German government institutions and are offered tax advantages when the exit their investment. In addition, in Germany there are also financial programs that provide liquidity to the founders directly. For the most part, Georgian support programs focus on the founders more than on the investors. More focus on the investors can potentially lead to substantially higher cash injections into start-ups than directly supporting the start-ups. Typically, the initial investments are supported with a 10–20% grant of the investment amount. So, cash injections five to ten times the grant are triggered.

8 The View from the Outside: How Do German Investor See the Georgian Start-up Cosmos

Since they are often the first external source of funding and supporters of the business, access to national and international angel investors is vital for the Georgian start-up cosmos. Regarding international angel investors, a survey among ten German-based angel investors that have invested into a range of three to thirty start-ups each—although not representative—indicates important aspects of Georgian entrepreneurs to attract foreign angel investors.

Knowledge of Georgian Startup Cosmos - German Based Angel Investors

	Yes	No
Have you ever considered a startup investment in Georgia?	0	10
Do you know at least on German Unicorn?	10	0
Do you know at least one Georgian Unicorn?	0	10
Do you know any Georgian startup?	2	8

Exhibit 5 Knowledge of the Georgian start-up cosmos among German-based angel investors

Importance of Investment Criteria
1 - not important
5 - very important

	Average
Financial incentives (like grants, tax benefits)	2,2
Founders and team	4,8
Business idea or product	4,1
Pitch Deck	4,1
MVP/Prototype available	3,8
Access to qualified personnel	3,1
Political stability	4,5
Attractive tax scheme	2,1

Exhibit 6 Assessment of the importance of investment criteria among angel investors

Exhibit 5 shows that from a German perspective, Georgian start-ups are unconquered territory. None of the interviewed angel investors has ever considered a start-up investment in Georgia and only two could name a Georgian start-up at all. As a conclusion, the first step to attract foreign capital for the Georgian start-up world is to make it known. There are numerous internationally known start-ups originating from places across the globe that are not seen as start-up hotspots. This shows that it is possible to launch and scale start-ups from anywhere, not only from the well-known hubs.

Exhibit 6 shows that financial incentives are by far not the most important criteria for angel investors when the select their investments. First and foremost, they invest into people and their ideas. The importance of political stability might have increased through the developments in Europe in the first half of 2022. Also, an attractive tax scheme is deemed of lesser importance by the angel investors. So, while government programs highlight financial incentives and the.

9 Conclusions and Outlook

Germany's most important start-up hub is Berlin—with a population close to the population of all Georgia. In recent years, German-based start-ups have attracted investments exceeding EUR 10 billion per year. With a growing university-educated workforce, a high ranking among the most attractive countries for digital nomads and good English language skills especially among young people, Georgia has the potential to grow its economy by attracting and encouraging start-ups. Going back 10 years, Berlin has been attractive to intellectuals, young entrepreneurs, and people in the creative business, because costs of living were very low compared to start-up hubs like London or Munich. This advantage is shrinking, and start-ups are exploring new hubs. To become a major hub, Georgia should offer minimal bureaucracy and attractive incentives for international investors to fund start-ups. Programs for investors are likely to have a multiplicator effect on available funds—and international investors can provide access to global markets and international networks.

The case study of Cleenr GmbH shows that bootstrapping and angel investor financing can go a long way, that even internationalization can be achieved without major venture capital financing or substantial public funding.

The twenty-first century is a century of digitalization, remote work, and software as a product. Countries and cities that attract the best talent will be most successful in growing their economies with the help of start-ups. Apart from the economic, talent and infrastructural environment, quality of living will have a major impact on where young entrepreneurs will decide to settle down with their start-ups.

References

Banholzer, M. (2022). https://www.mckinsey.com/capabilities/strategy-and-corporate-finance/our-insights/how-to-make-investments-in-start-ups-pay-off, Accessed 9 November 2022

Block, J. H., Fisch, C. O., & van Praag, M. (2017). The Schumpeterian entrepreneur: A review of the empirical evidence on the antecedents, behaviour and consequences of innovative entrepreneurship. *Industry and Innovation, 24*(1), 61–95. https://doi.org/10.1080/13662716.2016.1216397

BMWi. (2022). DE.DIGITAL - Zwölf Hubs, ein digitales Netzwerk.

Business Week. (1977). (Industr. edn) 5 Sept.: An incubator for start-up companies, especially in the fast-growth, high-technology fields.

DFKI. (2022). https://www.dfki.de/web/news/mit-ki-gegen-die-plastikflut-dfki-technologien-liefern-wichtige-erkenntnisse-zur-abfallbekaempfung-i/. Accessed 10 August 2022

EY Start-up-Barometer 2021 | EY - Deutschland

Hak, A. (2020). 5 reasons why Germany is the best country for startups (thenextweb.com), Accessed 24 November 2022

Jabarin, W. (2022). https://businessdatalist.com/why-are-startups-important/. Accessed 24 November 2022

Jurgens, J. (2022). *How start-ups drive economic recovery while growing responsibly.* https://www.weforum.org/agenda/2022/05/how-start-ups-help-drive-economic-recovery-and-growth/. Accessed 8 August 2022

Kutzniezova, O. (2020). *German Startup Ecosystem (thestartupclub.net)*. Accessed 24 November 2022

Parvez, S. (2018). *Kashmir's changing startup ecosystem: A good beginning (greaterkashmir.com)*. Accessed 24 November 2022

Sadler, D. (2022). *Number of start-ups founded in Germany is increasing - Globe Echo, David Sadler*. Accessed 28.04.2022

Simpson, J. A., & Weiner, E. S. C. (1989). *The Oxford English dictionary*. Oxford University Press.

Start-up Detector. (2022). *Startupdetector report 2021*. https://www.startupdetector.de/start-updetector-report-2021/. Accessed 11 August 2022

VKU. (2022). https://www.vku.de/fileadmin/user_upload/Verbandsseite/Presse/Pressemitteilungen/2020/Studie/Daten-VKU-Littering-Studie.pdf. Accessed 10 August 2022

Yushkevitch, N. (2019). *The start-up ecosystem of Georgia*. https://start-upjedi.vc/content/start-up-ecosystem-georgia. Accessed 6 August 2022

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Victor Fischer is a seasoned cleantech entrepreneur in the field of smart city technologies. After graduation from EBS European Business School and studying abroad at BYU in Utah and Georgetown university, he started his career in technology consulting before embarking on an adventure as a serial entrepreneur founding start-ups Calmdura in 2012 and Cleenr in 2021. Victor has mentored several students who were able to use the start-up experience to successfully launch their respective careers.

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Her prime interests in Management are:

– features which impact the performance of businesses, and how firms thrive by using disruptive technologies to reconfigure business models to maximize profits and performances;
– reconfiguration mechanisms and how they can be improved by utilizing innovative technologies to achieve competitive advantage in business;
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KIUINNOVATE: A Flagship Initiative for an Entrepreneurial and Engaged University in Georgia

Kathrin Albrecht and Eva Knirsch

1 Education as an Important Driver for Georgia's Development

Georgia's progress over the last years was vastly fueled by the signing of the EU Association Agreement including the Deep and Comprehensive Free Trade Area (DCFTA) chapter that covers cooperation in sectors such as energy, transport, employment and social policy (European Commission, n.d.).The liberalization of labor law, far-reaching governance reforms and the business-friendly tax policy also helped to transform Georgia into an attractive investment destination (World Bank, 2018). Education is one of the most important drivers for a strong and sustainable socio-economic development and Georgia's government has made a commitment to significantly reform the educational system. The improvements are related to school governance, competence-based curricula and professionalizing the teacher's education (OECD, 2019).

One important still existing challenge is the skills shortage that does not fit to the industry needs and leaves Georgia with a high unemployment rate and low salaries. The country's human capital potential remains untapped, with most labor resources being locked in low-productivity jobs (UNIDO, 2016; World Bank, 2018). The negative employment situation in particular affects young degree holders. The set of skills they got equipped with during their education is not aligned with the changing needs of the industry—creating a severe skills mismatch (OECD, 2019). Compared to peer countries, the Georgian higher education system has a lower economic return, hardly enhancing the employability or increasing the salaries of young degree holders (Bochorishvili & Peranidze, 2020).

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Looking at this picture, it becomes clear that despite significant economic growth in the last decades, Georgia's economy remains vulnerable to economic, social, and environmental shocks. To increase economic resilience and position Georgia as a regional leader in a technology driven sustainable development, national education strategies must strengthen modern education approaches: Further investments in knowledge development are necessary, increasing the quality of education, research, and development (R & D), innovation and skill upgrading aligned with the rapidly advancing demands on global markets. This will leverage the important transition towards an innovation-based economy, supported by technical and entrepreneurial capabilities and investments in human capital.

"Education develops human talents, and human talents shape the future of society."

(Prof. Dr. Wolfgang A. Herrmann, President Emeritus of the Technical University of Munich and Honorary President of KIU; KIU, n.d.).

Especially higher education institutions (HEIs) play a key role paving the way for these talents, equipping them with the twenty-first century skills they need to enhance the cultural and economic welfare of a country. Specifically in Georgia, HEIs can play an important role to close the skills gap and foster an innovation-based and entrepreneurial education approach.

2 Education in Georgia and the Changing Role of Universities

The role of universities and HEIs has changed during the past decades. Conducting research and educating future academics and leaders is not enough anymore. Universities must think beyond and include the so-called Third Mission, the "contribution to society" they impart in terms of social and economic aspects (Compagnucci & Spigarelli, 2020). In light of this, universities and HEIs, as providers of education, knowledge, and research become the perfect heart and driver of an innovation ecosystem, that involves society, industry, and politics. The new centrality of universities comes along with the emergence of collaborative innovation cultures with shared values and aims as well as joint strategies and common interests. That new role includes the orchestration of multi-actor innovation networks, such as the innovation ecosystem that is surrounding the university (Reichtert, 2019).

This development further calls for a more collaborative and interdisciplinary research. The focus shifts from purely technological innovation to systemic, challenge-driven innovation with special attention to society. This happens in HEIs worldwide and is described by the term of an "engaged university." The Third Mission of a university thus comprises economic and technological innovations based on cooperation with industry but also the community outreach of innovations and other university activities. The well-being of society as well as the regional development grow in significance. Concrete goals of the engaged university

are the improvement of citizens' life, the share of knowledge, educating political, social, and personal responsibility amongst their students but also collaborating with local industries and transferring technology into practice (Moussa et al., 2019).

KIU moves in this direction. Located in Kutaisi, Georgia's third largest city, this new university opened in 2020 with the goal of becoming a leading education and research center in Georgia and the larger region but also with the goal of fostering collaboration between academia, the business sector, society, and international partners. "The University's mission is to build human capital that will support development of innovations and new technologies." (KIU, n.d.). KIU's model is the Technical University of Munich (TUM). TUM International, a subsidiary of TUM, supports KIU on its way to become a leading entrepreneurial and engaged university.

KIU initially admitted 250 students in three different Bachelor study programs: mathematics, computer science, and management. One year later, in fall semester 2021, approximately 500 students were admitted into the same study programs and now KIU has up to 1000 students already.

KIU, a legal entity for public law (i.e., a state university), is committed to offering education programs in line with international standards of leading universities, especially in line with TUM standards. The second academic year at KIU has been successfully completed. As internationalization is at the core of KIU's guiding concept all study programs are offered in English (KIU, n.d.). KIU also started the process of international accreditation at the end of 2021, to further internationalize their study programs and thus attract international students. As a campus-based university KIU offers ideal conditions for students of many nationalities and professors to learn together and for industry and society partners to collaborate.

3   KIUInnovate: A Flagship Initiative for an Entrepreneurial and Engaged University in Georgia

KIU's overall goal is to build human capital that meets the industry demands, contributing to social and economic development in Kutaisi, Georgia, and the Southern Caucasus region. Reaching this goal requires close cooperation and partnerships with the private sector and a wide range of other stakeholders. As a first step in this direction, KIU established an innovation ecosystem initiative in 2021, called KIUInnovate, a framework for cross-stakeholder engagement to boost entrepreneurship and foster collaborative projects with regional, national, and international industry partners. One obvious purpose of this initiative is to strengthen students' employability through adapting the study programs to the current industry and societal needs and by offering capstone projects and internships. Moreover, aligning KIU's education programs to the needs of the private sector is also meant to reduce the skills mismatch and therefore reduce youth unemployment and promote social

development. In return, industrial partners benefit from access to young people with up-to-date knowledge and skills.

KIUInnovate is the broad initiative that comprises the entrepreneurial strategy, technology transfer and collaborative programs in research and education. The aim of KIU is to gradually become an innovation and technology hub in the wider region and contribute to the establishment of a sustainable innovation ecosystem in Georgia. To kick-start KIUInnovate, KIU initiated an **Innovation Ecosystem Workshop Series** in the beginning of 2021. TUM International facilitated the sessions that were conducted jointly with KIU's academic and administrative staff and with external stakeholders from industry and civil society. It is helpful when a process that entails a long-term systems transformation starts with targeted solutions that address urgent needs. The workshop series thus identified such concrete opportunities and challenges related to building up an innovation ecosystem. They also outlined implementation roadmaps.

The main challenge for KIU is to identify stakeholders out of the ecosystem that are willing to engage in a systematic manner to mobilize capabilities for long-term development projects. Thus, KIU developed the following three-folded approach:

(1) **KIUs Industry Advisory Council (IAC):** To align the university's focus and programs with the industry needs, a selected circle of high-level representatives from German and Georgian businesses as well as representatives of business associations was formed in 2021. The aim is to foster a close communication with industry to ensure that the KIU academic development is aligned with the private sector's needs. This component has an advisory and strategic dimension. The IAC's long-term goal is to set up the framework for collaboration between KIU and the private sector, and initiate R & D pilot projects with SMEs and large corporations.

(2) Over time, the alliance will be extended by another platform, the **KIU Corporate Partners**, aimed at aligning companies and public sector institutions much closer with KIU to take up joint project ideas in terms of research, technology transfer, students' internships and employment.

(3) **Innovation Ecosystem Platform:** The main objective of this platform is to: (a) support KIU students and alumni to develop, scale up and successfully commercialize their start-up products and services, (b) offer an incubator and accelerator, (c) organize technology transfer, and (d) implement events promoting innovation and entrepreneurial spirit amongst students and KIU staff.

4   KIUInnovate: Outcomes and Impact on the Region

Already the first KIU years with IAC backing have made it very clear that the IAC members with their manifold industry experience contribute in a very effective way to the goal of an entrepreneurial university. The IAC points out how to integrate the industry needs better into the study programs and identifies next steps regarding potential corporate partners for internships and other joint projects. The IAC also

highlights an even more project-based learning approach in KIUs curricula, and its members are ready to support this project-based approach in concrete and practical ways.

Setting up the IAC and activating the private sector has been successful. From the very beginning, KIU has been interested in partnering with large international corporations, especially to make KIU and KIUInnovate visible. However, it was also recommended to focus on local, regional, and national partners. Given KIU's interest in offering internships, capstone projects and other activities with industry, a close collaboration with local partners from the very beginning contributes to stronger engagement with the local community.

The roadmaps as an outcome of the Innovation Ecosystem Workshop Series have been partly driven forward already in 2021 and 2022 and will be continued under the orchestration of KIU. In summer of 2021 and 2022, for example, KIU together with Georgia's Innovation and Technology Agency (GITA) conducted start-up acceleration summer schools for KIU student. The participating students developed own start-up project ideas during this week and KIU already boasts of seeing the first start-ups arise. Other students, still in the process of developing their ideas, get the chance to present these during KIUInnovate Forum days - an event initiated at KIU in 2022. This offers the participants the possibility to strengthen their entrepreneurial thinking and identify opportunities to scale up potential ideas.

Other roadmaps, such as implementing a technology lab at KIU for students and building up support for entrepreneurs through offering co-working spaces and mentors, are in the process of being implemented. To keep the motivation high, KIU has recognized that the university must step into the role of initiator and orchestrator of the whole process. To be able to do so, KIU is currently building up an Innovation Team and capacity at the university.

The already implemented and planned activities bring several benefits to the industry partners as well. Building up a strong network through the project roadmaps enables companies to also engage with more advanced technologies and complex topics with a a societal transformation impact. Such projects facilitate companies' access to KIU's labs, co-working spaces, and talent.

Bringing the two sides together, a **KIUInnovate Business Forum** on "Third Mission Of Universities: Developing Innovations Ecosystem For Georgia's Economic Growth" has been organized and implemented in October 2022. The Forum is organized at the initiative of KIU in partnership with TUM International GmbH and the US Embassy's University Capacity Building Program. The KIUInnovate Business Forum brought together government officials, industry leaders, executives of international organizations, financial institutions, major international companies along with international experts and university representatives.

The forum has served as a unique platform for establishing academia and industry relations between national and foreign stakeholders and has created new growth trajectories in the dynamically developing market of Georgia. Best practices on university-industry collaborations from the US and Germany have been shared. The national and international high-level guests, speakers, and panelists pointed out how entrepreneurship and technology transfer can leverage a country's

economic growth. Through the Forum, KIU is able to foster new partnerships and build up new university-industry relations, gaining further recognition in Georgia and the whole Caucasus region.

5 Future Outlook

The Third Mission of a university calls for an approach that embraces collaborative and interdisciplinary research and open innovation. These components are the basis for every strong and lively innovation ecosystem. KIU takes bold steps towards building such an innovation ecosystem. Doing so, KIU is an outstanding model on how HEIs can engage with industry and their environment and become a lively heart, orchestrator, and driver of an innovation ecosystem, building up young talents with twenty-first century competencies, matching the current and changing skills needs and therefore making a major contribution to the development and economic growth of Georgia.

References

Bochorishvili, E., & Peranidze, N. (2020). Georgia's Education Sector. GALT & TAGGART. *Industry Overview*, July 2020.

Compagnucci, L., & Spigarelli, F. (2020). The Third Mission of the university: A systematic literature review on potentials and constraints. *Technological Forecasting and Social Change, 161*.

European Commission. (n.d.). *EU-Georgia Deep and Comprehensive Free Trade Area*. Available at: https://trade.ec.europa.eu/access-to-markets/en/content/eu-georgia-deep-and-comprehensive-free-trade-area. Accessed 13 October 2022.

KIU. (n.d.). *Innovation and Technology. Kutaisi International University (KIU)*. Available at https://www.kiu.edu.ge/eng/innovation. Accessed 13 October 2022.

Moussa, A., Kesting, T., & Clauss, T. (2019). Embedding entrepreneurial and engaged universities – A holistic view. In T. Kliewe, T. Kesting, C. Plewa, & T. Baaken (Eds.), *Developing engaged and entrepreneurial universities. Theories, concepts and empirical findings* (pp. 19–42). Springer.

OECD. (2019). *OECD Reviews of Evaluation and Assessment in Education: Georgia. Chapter 1. The education system in Georgia*. Available at https://www.oecd-ilibrary.org/sites/bbc437ae-en/index.html?itemId=/content/component/bbc437ae-en. Accessed 13 October 2022.

Reichtert, S. (2019). *The role of universities in regional innovation ecosystems*. European University Association Study. Available at: https://eua.eu/downloads/publications/eua%20innovation%20ecosystem%20report%202019-3-12.pdf

UNIDO. (2016). *Formulation of UNIDO Country Programming Framework for ISID in Georgia*.

World Bank. (2018). *Country partnership framework for Georgia for the period FY19-FY22*. World Bank.

World Bank. (2020). *Georgia: Towards green and resilient growth*. World Bank.

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Part II
Digital Transformation and the Enterprise Perspective

The Enterprise Transformation Cycle: A Model for Digital Transformation

Peter F. -J. Steinhoff

1 Digital Transformation

The topic of transformation is not new in itself—there has always been transformation; it is an essential prerequisite for our development. Today, the only difference from transformation processes up to approximately 20 years ago is that transformation is taking place at a breathtaking speed. Whereas 30 years ago, transformation was not one of the everyday issues that management in companies had to deal with, the picture has changed dramatically, especially because of globalization, digitization, pandemic, and war. More than ever, companies are facing challenges to reduce costs, automate processes, improve the quality of products and services, and adapt business models to digital reality continuing to compete successfully in the market and find new growth opportunities in the future.

The challenges companies face today are different and affect all companies, whether they are global or local, already digital, or still analog. Companies are subject to a continuous process of transformation and do well to accept and manage this fact. Once companies have accepted this, they often face the challenge of execution. This is where the enterprise transformation cycle (ETC) comes in. The ETC was developed to implement transformations in companies. As a holistic framework, it supports the successful implementation of transformation processes because it has established itself as an open framework for a wide range of approaches for transformation projects. The ETC can be used to develop a wide range of transformation solutions and to identify the boundaries and risks of transformation. It differentiates transformation possibilities and supports those responsible for the planning, implementation, and organization of (digital) transformations. (Steinhoff, 2018, p. 3 ff.).

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2   The Enterprise Transformation Cycle

The ETC follows the sequence "structure follows strategy" formulated by Chandler (2003, p. 314). Structures in an organization can therefore only be changed after a decision has been made in favor of a particular strategy. Accordingly, the organization plays a secondary role in relation to the strategy. Without determining the strategy, there is no adaptation of the organizational structure, since the latter determines what is to be transformed. The organization is responsible for implementing the strategy.

However, this view is controversial. The question arises whether those strategy settings are not excluded from the outset that does not take place within the boundaries set by the organizational structure (Hall & Saias, 1980, pp. 149–163). This means that the organizational structure is already in place before the strategy formulation and that the strategy formulation is oriented to the existing organizational structure. This view, in contrast to Chandler's, is referred to as "strategy follows structure." Accordingly, structural conditions must first be created before the strategy can be designed because, in Hall's view, the organization impacts the strategy.

Organizations, however, must be shaped in such a way that they are capable not only of implementing defined strategies but also of generating strategies. It is also crucial that structure and strategy are aligned accordingly. With the help of the ETC, these two perspectives are precisely combined. The transformation cycle begins with the strategy, but the strategy is already framed by the organization. By changing the strategy, however, the organization itself is influenced. However, as mentioned above, this can lead to the formulation of a new strategy based on the existing organization, in which case no transformation takes place. In this phase, according to Kotter (2012, p. 31 ff.), it is important that the organization is aware of the urgency of transformation or that this awareness can be generated. This allows a change in strategy to take place that is not precisely oriented to the existing organization, and a transformation can thus take place.

Hammer and Champy (1994, p. 48) describe an enhancement of Chandler's sequence in the management direction of business process reengineering that emerged in the 1990s, which involves a strong process orientation of corporate activities. In this context, the sequence of strategy and organization is further extended by a process perspective to clarify this process-oriented way of working. Accordingly, essential requirements for key processes are formulated in the strategy, which leads to an adaptation of the processes and from which a process-oriented organizational structure can be derived. The extension of the sequence can be expressed as "structure follows process follows strategy."

Since a transformation process in a company is very complex, it includes other aspects in addition to strategy and organization. The ETC (see Fig. 1) provides a model with which these individual aspects and phases of a transformation can be clearly determined. By looking at these transformation processes in detail, seven dimensions can be differentiated, which are shown in gray in Fig. 1. These
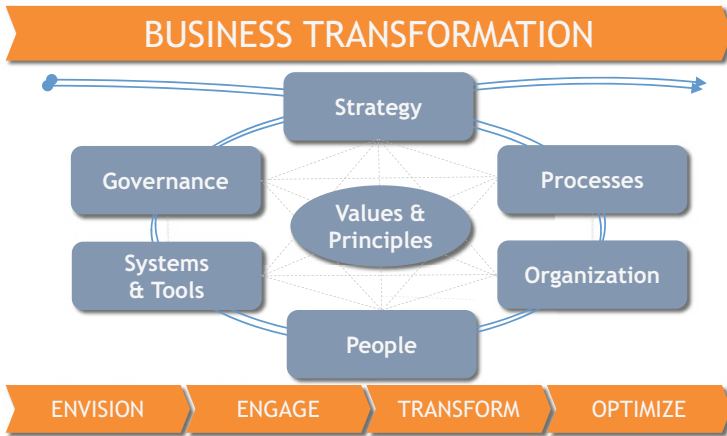
Fig. 1 The Enterprise Transformation Cycle (Composition according to Transformation Consulting International 2018 and Stiles et al., 2016, p. 45)

dimensions usually follow one another, which is why we can speak of a cycle. The structure follows strategy sequence formulated by Chandler could be extended accordingly to include the dimensions processes, people, systems and tools, and governance. In this sense, the sequence could read as follows: "governance follows systems and tools follow people follow structure follows processes follow strategy."

At the center of the ETC are the aspects of values and principles and the culture of the respective companies. In the context of a transformation, companies are confronted not only with the dimensions of the ETC described above but also with different cultures. This cultural diversity shapes the way employees live and see things and can vary from country to country, region to region, company to company, and even within companies, which has a central influence on the success of a transformation.

Hofstede defines culture as "collective programming of the mind which distinguishes the members of one human group from another" (Hofstede, 1984, p. 21). This definition is based on the view that people are mentally programmed and that there are three levels to be considered. The first level is the universal level. This level is to be understood as a kind of operating system of the biological body. The universal level contains, for example, all imaginable possibilities for the expression of the feelings. The second level is the collective level and defines culture. The collective level is the programming that is shared among people of a certain group but is consequently different from that shared by other groups. Examples of this type of programming include language, expression, and respect for superiors. This level, unlike the universal level, is learned in the first years of life and is therefore dependent on the cultural community in which the person grows up. However, since each person is unique, the last and third level is defined as an individual level (Hofstede, 1984, p. 15).

In the context of a company, we speak of a corporate culture. Kobi and Wüthrich define this as "the totality of shared norms, values and attitudes that shape the behavior of employees at all levels and thus the appearance of a company" (Kobi & Wüthrich, 1986, p. 13). They go even further and assert that companies not only have culture but are also a culture in and of themselves. This conception is justified by the characteristics of a corporate culture, which they portray as learnable, adaptable, multilayered, and mostly unconscious (Kobi & Wüthrich, 1986, p. 33 f.). According to Schein (2010, p. 219), a corporate culture emerges through beliefs and values of, for example, the company founder, through learning experiences of group members, and new beliefs and values introduced by new group members and managers.

These views show that corporate culture is a key factor in the success of a transformation. However, they also show that it is possible to initiate and successfully implement a transformation. In the best case, a corporate culture can even be a driving factor of a transformation. However, this requires close interaction with a company's strategy and organization (structure). "A strategy is only as good as it is implemented, new structures only as good as they are mentally lived, and corporate culture in turn only as functional as much as it fits strategically and structurally" (Königswieser et al., 2001, p. 48). However, it is also clear that the more a corporate culture is in harmony with the goals of the transformation, the more likely it is that the transformation will be successful. It is important to remember that a corporate strategy can be changed within a few weeks, and the organizational structure can be adapted in a short time. However, a transformation is only successful if it is also lived and thus supported by the corporate culture. However, this change can take several years.

Thus, the corporate culture can be seen as a driving or limiting factor. If the corporate culture acts as a limiting factor, it must be decided whether it might be more sensible to adapt the transformation concept to the corporate culture. This decision is of course dependent on the time frame, financial resources, and the need for urgency (Schmidtborn & Königswieser, 2014, p. 88 f.) Thus, it is clear that the corporate culture can be extended to include "strategy follows culture," in accordance with Chandler's "structure follows strategy" sequence. In the case of a reverse sequence with "culture follows strategy," successful transformation requires a high degree of urgency for change, a strong impulse from the outside, and close dovetailing with the inside of the company.

2.1 What Is Transformed?

As shown in Fig. 1, the middle part of the ETC is composed of seven dimensions. Six dimensions form the cycle. The values and principles of a company are located in the middle of the cycle and thus form the central dimension. The dimensions are presented in a cycle because, ideally, they should be considered one after the other, starting with the strategy. However, various dimensions are not addressed during a

transformation. Dashed lines connect the individual dimensions of the ETC to illustrate this reality. While the Cycle dimensions describe the content of a transformation, the dimensions Envision, Engage, Transform, and Optimize illustrate the way in which the transformation takes place. The dimensions Strategy, Processes, Organization, People, Systems and Tools and Governance are described below in the context of a transformation.

2.1.1 Strategy

The transformation process usually starts with the redesign or change of the company's strategy, the framework for which is ideally set by a vision. The strategy is used to describe the planned bundle of measures for achieving the goals as well as the unplanned decision-making and action pattern of a company. This view is based on the perception that due to the high speed and discontinuity of changes in politics, the economy and society, a long-term strategy through coordinated bundles of measures is very difficult. With this strategy, the company tries to unlock its potential for success to gain competitive advantages. This requires consideration of both the corporate environment and the company's own resources, capabilities and competencies (Kutschker & Schmid, 2011, p. 825 f.). To formulate a successful strategy, companies must ask themselves the following questions, for example,

– What are the long-term and short-term goals?
– What are our relevant business areas?
– How will our market change in the medium to long term?
– What measures can be taken to achieve our long-term goals?
– What new segments can be created, and where can they be unique selling points based on our competencies/competitive advantages?

Examples of successful strategy formulation include replicating existing business models into new markets, refocusing on and redefining core business areas, and leveraging core competencies for forward and backward integration.

Strategy formulation takes place in several steps. Macharzina and Wolf (2012, p. 303 ff.) suggest three work steps:

1. Assessment of the present and the future
2. Development of the strategic direction
3. Formulation of the (product-market) strategy

Numerous tools can be used for strategic present and future assessments. These include, for example, environmental analysis, company analysis, industry structure and competition analysis, gap analysis and benchmarking. The present and future assessment can thus be seen as a basic analysis for the formulation of strategy. In contrast, the development of the strategic direction is used to determine the fundamental direction of the company. The instruments include space analysis, the product-market matrix, and SWOT analysis. The third step clarifies which of the strategy alternatives will be promoted or discarded. The products and services, the

target markets and the product-market combinations are determined. The central instrument here is portfolio analysis in its various forms. Examples are the market attractiveness–competitive advantage portfolio (McKinsey matrix), market share–market growth portfolio (BCG matrix) and technology portfolio. These presented concepts and methods enable a targeted strategy formulation. However, strategy formulation and evaluation do not yet promise success for the company. Rather, success depends on consistent implementation of the strategy. One of these implementation tools is the balanced scorecard. With the help of the balanced scorecard, the strategy is underpinned, including a description of the path with concrete measures, the derivation of measurable goals and key figures, and the integration of the strategy into the daily work of the employees. This is done through target agreements and a reporting system with the aim of regularly reviewing what has been achieved.

Another important term that can be assigned to the ETC component strategy is the term "business model." The distinction between strategy and business model is fluid and, in some cases, not clear-cut. For Schallmo, the strategy is the frame of reference and target and thus a prerequisite for the business model. The business model implements and concretizes the objectives of the strategy. However, he also emphasizes that business models can be developed without a strategy (Schallmo, 2012, p. 43). In the context of a transformation, the interaction between strategy and business model can be formulated according to Umbeck in such a way that the strategy supports the transition from one business model to a new one and provides an integrative framework. He suggests that in addition to the instruments for formulating business models, the classic instruments of strategic analysis should also be used to obtain relevant information for developing a business model (Umbeck, 2009, p. 55 f.). One of these instruments is the Business Model Canvas developed by Osterwalder and Pigneur. The model, with its deliberately visualized representation, is intended to help define a business model. It fits on one DIN A4 page and can be divided into the four main components of customers, offering, infrastructure, and financial feasibility (Osterwalder & Pigneuer, 2011, p. 19 f.).

2.1.2 Processes

The adaptation of the strategy to the changed framework conditions usually has an impact on the processes of the company. Thus, the next step must be an analysis of the value-added process model. This step involves the procedure required in the transformation process and thus the individual steps and their effects on the processes, including management processes as well as value-added and support processes. A classic representation of these processes is, for example, the process model of the American economist Michael E. Porter. Porter divides processes into primary activities and support activities. Primary activities include those that are directly related to the production of goods and services; according to his definition, support activities are those that are necessary to carry out the primary activities (Porter, 2010, p. 66). A change in processes necessitates the emergence of or a change in roles

along the operational value creation processes. Roles must be redefined and responsibilities defined. Furthermore, a clear competence, qualification, and development model is required to underpin the roles and their responsibilities.

2.1.3 Organization

The strategy as well as the processes and roles that change as a result of a transformation have an impact on the organizational structures of the companies. An organization is to be understood as the sum of the regulations in the company that are intended to ensure that common goals can be pursued throughout the company as smoothly as possible (Bea & Göbel, 2010, p. 7). The term is extremely broad, which is why it is usually divided into two to three categories: the organizational structure, the process structure and, in some cases, the work organization (Bea & Göbel, 2010, p. 258 f.). Picot speaks of an organizational structure when the "subtasks of the task managers and the relationships existing between them are the focus [. . .]. In contrast, the process structure focuses on the factual performance processes that take place in space and time and that occur at and between the duty managers." (Picot et al., 2015, p. 28). The aim of this component in the ETC is to allow externally given changes, which are triggered by technological or economic changes, for example, to be incorporated into the existing organizational structure. For example, new communication structures make virtual forms of organization possible. In the IT sector in particular, the topic of outsourcing organizational units is becoming increasingly important, especially under the pressure of the shortage of professionals. Finally, there have been massive changes toward agile organizational forms, which are seen as the new saviors for dealing with increasing dynamism, complexity, digitization, bureaucracy and changing values, for example.

2.1.4 People

Behind roles and organizations in a company, there are always people with their special skills and competencies. People, with their values and norms, are a critical success factor in every transformation. If the wrong decisions are made in this component of the ETC, this can have serious consequences for the company. Due to an increasing speed of transformations, the time windows in which such decisions must be made are becoming increasingly narrow. However, a transformation can basically only take place if there are also employees who can implement and accompany the initiated transformation. High economic dynamics, technological change, globalization, and other trends mean that employees' knowledge quickly becomes obsolete. Buzzwords such as lifelong learning, e-learning, mobile learning, and game-based learning are becoming increasingly important in companies. For example, the role of the controller in companies will change massively due to new technical possibilities such as big data and analytics. According to Peter Horvath, the role of the controller will develop from business partner to business catalyst and thus

to business accelerator (Horvath, 2016, p. 5). To fulfill this role, it is necessary to renew and change the curricula for education and training.

In a transformation, it is therefore even more important to quickly quantify the existing resources in the organizational units. Skill gap analyses of existing employees with the new role descriptions in a changed organizational structure (qualitative assessment) must be performed. The next step requires both quantitative and qualitative personnel planning. The decision to either hire new employees or retrain existing employees must be made. If new employees are hired, recruiting and personnel marketing must be intensified. The labor market for qualified specialists who can keep pace with the demands of digitization, for example, is highly competitive. Furthermore, active integration of new employees into an attractive corporate environment is necessary.

If the company decides to develop and promote existing employees, further training measures must be planned and implemented. Target agreements must be adapted to the new circumstances. In addition, it is important to deal with the fact that employees will leave the company voluntarily. However, there will also be cases where the company must separate from employees as a result of restructuring. This will also lead to conflicts during the transformation process. Here, it is important to identify and prepare possible solution options in advance.

2.1.5   Systems and Tools

The ETC component "Systems & Tools" refers to supporting methods and information systems that support the transformation. These include, for example, process descriptions and method-building kits for recurring tasks, such as assessment center techniques, tendering procedures, and environmental analyses. This ETC component also includes the selection of information systems that are introduced to support the process. Furthermore, the planning, introduction, and operation of the IT infrastructure, business applications, and operating resources such as production facilities, office buildings, vehicle fleets, etc., fall under this component.

2.1.6   Governance

Ultimately, a transformation also results in an adjustment of corporate governance and thus of the management and monitoring of companies. Corporate governance is a collective term for numerous aspects, such as laws, guidelines, documentation of information flows, decision-making processes and decisions. Corporate governance aims to limit opportunistic behavior by stakeholders through clear regulations. This includes, for example, limiting the scope for decision-making, controls, incentive systems and the provision of information. There are therefore overlaps with the topic of controlling, which is integrated into the ETC component of governance. These two terms can be distinguished in that controlling is concerned with the measures that plan, control, and monitor the activities of the company. Corporate governance,

on the other hand, is concerned with how cooperation within the company and outside the company is regulated, for example, with providers of capital (Wagenhofer, 2009, p. 2 f.).

Since a corporate transformation can arise from a wide variety of motives, such as corporate acquisition and integration, it is necessary to take a detailed look at the topic of governance. This, of course, also relates to the measures taken to monitor compliant behavior in the context of governance efforts within the company. These measures are summarized under the term "corporate compliance." Compliance is the observance of or adherence to laws but also to voluntary corporate codes (Becker & Ulrich, 2010, p. 10). Thus, compliance includes legal as well as ethical and moral requirements for companies. In legal terms, there are a number of laws that oblige companies to conduct business in compliance with the law. Examples include the duty of care of the management board, which is regulated in the German Stock Corporation Act §93 para. 1 (Gruber, 1999, p. 190), and the German Corporate Governance Code (Regierungskommission Deutscher Corporate Governance Kodex 2015). In addition to the legal requirements, a central concern of compliance is that entrepreneurial action should be aligned not only with the criterion of acceptance but also with the principle of integrity (Wolf & Runzheimer, 2009, p. 224).

Since controlling is responsible for creating transparency within the company and therefore for planning, monitoring, and controlling results, deadlines, resources and technical services, it has several very important roles to play in a transformation. On the one hand, controlling is responsible for monitoring and making the results of the transformation transparent. Controlling has several instruments at its disposal for this purpose, which must be adapted to the relevant circumstances. These include risk management, but of course also issues such as financing the changes. Adequate key figures and key performance indicators (KPIs) are required to create transparency and control. On the other hand, according to Küpper et al. (2013, p. 39), controlling has an innovation function in the company and thus also in a transformation. In this context, controlling has the task of focusing on the future development of the company and the corporate environment. Tasks here are the anticipation of trends through, for example, the provision of early detection systems so that transformations can be triggered in the performance areas in the company. For these reasons, governance and controlling play a decisive role in a transformation, even though they are only listed in last place in the cycle.

2.2 How Does the Transformation Work?

After all the important considerations for the individual components of the cycle have been made with the help of the content part (What is to be transformed?) of the ETC, the next step is to plan and implement the way in which the transformation is to be carried out. This step takes place in the Envision, Engage, Transform, and Optimize dimensions. Shown as a beam in Fig. 1, this sequence can again be seen as a kind of cycle, since these four phases can be run through again and again from
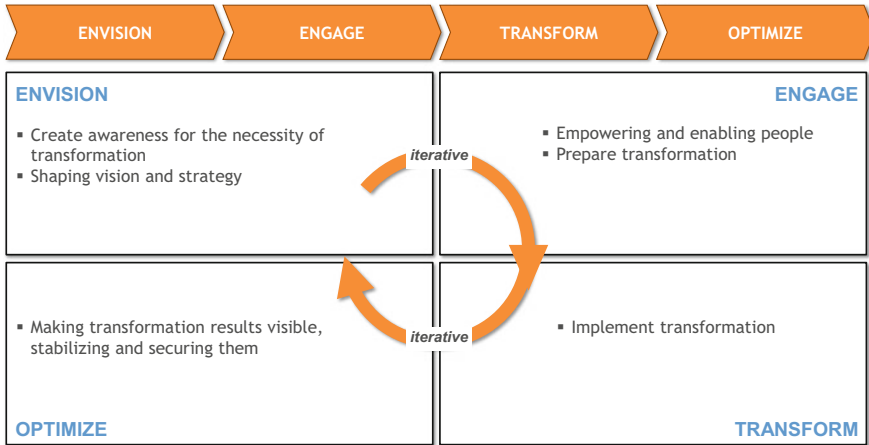
Fig. 2 How does the transformation work? (adopted from Stiles et al., 2016, p. 45)

the beginning. However, this process does not start at any point in the cycle but, rather, with Envision, as shown in Fig. 2. Once the cycle has been run through, it can be restarted directly afterward or at a later point in time. This seems advisable, as continuous change is considered necessary in large parts of business and science for companies to successfully compete in the market (Stiles et al., 2016, pp. 44–47).

2.2.1 Envision

The first step is to create an awareness of the need for change. So that this step does not remain abstract, the urgency of this change must be emphasized at the same time. The envisioning phase or envisioning (thinking things through) is thus the initial spark for the transformation. Those responsible for strategy analyze why a change is necessary and what options are available for implementing the change. In this phase, they develop a strategy and a vision for implementing the change. The breakdown of the work steps in this phase could be structured in such a way that, as a first step, interviews are conducted with the relevant stakeholders to achieve the necessary transparency of possible problems and resistance with regard to the transformation. Once initial insights have been gained, the transformation team must be set up, a common understanding created, and expectations management clarified. A 360-degree analysis of the company or division to be changed must then be prepared. A stakeholder analysis, the change impact and a risk analysis of the planned transformation must be carried out. This is all done in close coordination and on the basis of the values and standards, the maturity of the organization, and the agreed-upon strategic direction of the transformation.

2.2.2 Engage

In the Engage step, the aim is to encourage and motivate employees to support the transformation process and to prepare the transformation in detail. In this phase, it is important to convince everyone involved of the meaningfulness of the change. Employees must support the project through both their opinions and their behavior. To this end, it is imperative that they understand exactly what kind of change is needed and for what reasons, how exactly it is to be achieved, and who is responsible for it. The implementation of the transformation planned in the previous step starts in this phase. The tasks in this phase are, for example, creating a communication concept, creating an appropriate network for the change, and communicating the architecture of the change. The final project plan must be set up, including a KPI definition and possibly a balanced scorecard or similar tools. Furthermore, the goals for the next months or years must be defined. Then, the greatest task begins: securing the commitment of those involved. This is done through team building, talent development, securing key employees, and selection and training of change agents, those employees who will be expected to support the change. Governance for the transformation is also established at this point.

2.2.3 Transform

In the Transform phase, the actual transformation is implemented based on the developed concept. Old processes are replaced, changed structures are created, new systems are introduced and, under certain circumstances, even the corporate culture is changed. Stakeholders, especially management, must be closely supervised and supported in the implementation of the transformation. This process includes, among other aspects, conflict management, through which possible resistance in the organization can be identified and mitigated at an early stage. Other steps in this phase include managing the many subprojects involved in such a change with a focus on the overall goal, monitoring progress to ensure that milestones are met, and reformulating or reprioritizing goals if necessary. Existing processes and standards must be gradually adapted. Continuous performance control must be established, which ensures the achievement of objectives. A very important point in this phase is to ensure that quick wins are achieved. A far-reaching transformation usually takes time, often a long time. However, most people involved in a transformation cannot sustain a long period without visible successes. They want to see evidence that commitment and sacrifice are delivering results. According to Kotter, these quick wins must be visible in the sense that those involved can see them for themselves. The successes must be distinct and clearly related to the change (Kotter, 2012, p. 102).

2.2.4   Optimize

After the transformation has taken place, it is important to schedule a kind of stabilization phase in a further step. In this step, the change can still be improved. Above all, however, it is important that the innovations are internalized and institutionalized. Only in this way can the change be stable, long term, and sustainable.

In addition, this phase includes closing any outstanding issues, assigning final tasks, and acknowledging the project team's performance. Structures must be created and introduced that allow success to be measured on the one hand and continuous improvement to be brought about on the other. These structures should enable feedback loops to the management, which take this feedback, evaluate it and start the cycle again from the beginning: they visualize a new goal (re-envisioning) based on the feedback and any external changes. The ability to reinitiate the ETC over and over again results in a company consistently improving its level of organizational maturity.

3   Conclusion

The enterprise transformation cycle describes a holistic model that can be used in a wide variety of transformation scenarios. Its central feature is that it describes not only the type and manner of transformation (Envision, Engage, Transform, and Optimize) but also the content components and hence what is to be transformed. One of the great advantages of the model is, on the one hand, its high flexibility, since it does not prescribe a dogmatic focus on specific approaches and tools but only makes suggestions. On the other hand, however, it provides a clearly structured framework of a transformation process. For this reason, elements and methods of organizational development, such as change management, among others, can be integrated into this holistic model. However, this flexibility also brings with it the challenge that the person who uses this model in practice must have comprehensive knowledge and experience in transformation management as well as in the content-related topics or dimensions. Those who are up to this challenge can build on a very promising model for sustainable transformation.

Another advantage of the ETC is that the entry into the model does not necessarily have to be based on the strategy. Practice shows that entry often occurs via systems and tools or processes. SAP S/4 HANA, for example, is currently still seen far too often as a purely technological topic and is therefore assigned to the ETC dimensions of processes, systems, and tools and, to a lesser extent, to strategy. However, practice shows that S/4 HANA has a massive impact on roles, organization and, above all, employees (people). The employees in the companies are simply not prepared, either professionally or personally, for the changes that this technological development brings with it. If, as described in this case, the entry is made via the systems and tools dimension, the ETC can and should be extended to the other dimensions.

References

Becker, W., & Ulrich, P. (2010). Corporate Governance und Controlling - Begriffe und Wechselwirkung. In F. Keuper & F. Neumann (Eds.), *Corporate governance, risk management und compliance - innovative Konzepte und Strategien* (pp. 5–28). Gabler Verlag.

Bea, F. X., & Göbel, E. (2010). *Organisation* (4th ed.). Lucius & Lucius.

Chandler A. D. (2003) *Strategy and Structure. New edition. First publication 1962*. Beard Books.

Gruber, H.-M. (1999). *Grundwissen Wirtschaftsgesetze - Gesetzesauszüge für den Unterricht. Stand der Gesetzgebung: 01.01.1999* (9th ed.). Klett Verlag.

Hall, D. J., & Saias, M. A. (1980). Strategy follows structure. *Strategic Management Journal, 1*(2), 149–163.

Hammer, M., & Champy, J. (1994). *Business reengineering – die Radikalkur für das Unternehmen* (3rd ed.). Campus-Verlag.

Hofstede, G. (1984). *Culture's consequences - international differences in work-related values* (2nd ed.). Sage Publications.

Horvath, P. (2016). Predictive Analytics – zukunftsweisendes Werkzeug der Controller. Vortrag am 41. Congress der Controller. Int. Controller Verein. 25.04.-26.04.2016, München

Kobi, J.-M., & Wüthrich, H. (1986). *Unternehmenskultur verstehen, erfassen und gestalten*. Verlag Moderne Industrie.

Kotter, J. P. (2012). *Leading change*. Verlag Franz Vahlen.

Königswieser, R., Cichy, U., & Doujak, A. (2001). Dornröschen. SIM – Systemisches Integrations-Management. Ein ganzheitliches Modell der Unternehmensentwicklung. In R. Königswieser, U. Cichy, & G. Jochum (Eds.), *SIMsalabim. Veränderung ist keine Zauberei – systemisches Integrations-Management* (pp. 47–64). Verlag Klett-Cotta.

Küpper, H.-U., Friedl, G., Hofmann, C., Hofmann, Y., & Pedell, B. (2013). *Controlling – Konzeptionen, Aufgaben, Instrumente* (6th ed.). Schäffer-Pöschel Verlag.

Kutschker, M., & Schmid, S. (2011). *Internationales Management* (7th ed.). Oldenburg Verlag.

Macharzina, K., & Wolf, J. (2012). *Unternehmensführung* (8th ed.). Gabler Verlag.

Osterwalder, A., & Pigneuer, Y. (2011). *Business model generation*. Campus Verlag.

Picot, A., Dietl, H., Franck, E., Fiedler, M., & Royer, S. (2015). *Organisation – Theorie und Praxis aus ökonomischer Sicht* (7th ed.). Schäffer-Poeschel Verlag.

Porter, M. E. (2010). *Wettbewerbsvorteile: Spitzenleistungen erreichen und behaupten*. Campus Verlag.

Regierungskommission Deutscher Corporate Governance Kodex. (2015). Deutscher Corporate Governance Kodex 2015. Regierungskommission Deutscher Corporate Governance Kodex (Hrsg.), http://www.dcgk.de//files/dcgk/usercontent/de/download/kodex/2015-05-05_ Deutscher_Corporate_Goverance_Kodex.pdf, Retrieved 10.10.2017

Schallmo, D. (2012). *Geschäftsmodell-Innovation - Grundlagen, bestehende Ansätze, methodisches Vorgehen und B2B-Geschäftsmodelle*. Springer Verlag.

Schein, E. (2010). *Organizational culture and leadership* (4th ed.). Jossey-Brass.

Schmidtborn, A., & Königswieser, U. (2014). Unternehmenskultur als tragende Welle. In R. Königswieser, E. Lan, U. Königswieser, & M. Keil (Eds.), *Systemische Unternehmensberatung - Die wirksamsten Theorien, Modelle und Konzepte für die Praxis* (pp. 81–108). Schäffer-Pöschel Verlag.

Stiles, P., Uhl, A., & Stratil, P. (2016). Meta management. In A. Uhl & L. A. Gollenia (Eds.), *A handbook of business transformation management methodology* (pp. 41–59). Routledge Publishing.

Steinhoff, P. F.-J. (2018). Der Enterprise Transformation Cycle – Ein praxiserprobtes Modell für die erfolgreiche Unternehmenstransformation. In M. Pfannstiel & P. F.-J. Steinhoff (Eds.), *Der enterprise transformation cycle*. Springer Verlag.

Umbeck, T. (2009). *Musterbrüche in Geschäftsmodellen – ein Bezugsrahmen für innovative Strategie-Konzepte*. Gabler Verlag.

Wagenhofer, A. (2009). Corporate governance und controlling. In A. Wagenhofer (Ed.), *Controlling und Corporate Governance-Anforderungen* (pp. 1–23). Erich-Schmidt Verlag.

Wolf, K., & Runzheimer, B. (2009). *Risikomanagement und KonTraG - Konzeption und Implementierung* (5th ed.). Gabler Verlag.

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Agile Project Management Methodology: Exploring Factors Which Foster Successful Introduction and Institutionalization of the Framework

Nino Kopaliani, Akaki Kheladze, and Andreas Ditsche

1 Introduction

The company's environment is affected by various internal and external factors. Those forces heavily affect an organizational culture, structure, and strategy. The nature of opportunities and threats shapes the operation of modern business. The level of certainty is one of the crucial impact factors on the life span of a project. It helps the management to not only save the resources, but to decrease the level of stress as well.

As we know, the fundamental problem is that our resources are limited, which makes it essential to manage the fierce competition and keep up the market share, by making the best use of available resources as a company. Moreover, the client's acceptance is a key variable and the project should be developed to satisfy the customers' needs. Incomplete project plans and schedules create obstacles for the project team. To overcome such difficulties in project planning and scheduling, agile methods have been designed and implemented. It is a broadly applied method because of its approach to adjust the project to an uncertain, ever-changing environment and customer preferences.

The most widely used methodology of Agile Project Management is Scrum. Recent studies have shown that projects that used the Scrum/Sprint iteration process to develop the projects were delivered in time and within the budget with higher customer satisfaction compared to those that followed traditional procedures.

Agile project management methodology was developed more than 20 years ago. A couple of years ago, a few companies in Georgia made first attempts to introduce

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agile management methodology. This is a modern approach that emphasizes the relationships between the top management and the critical stakeholders affecting the project development. Agile adoption Statistics of 2022 show that 71% of companies around the world are using agile methods, while 60% of them experience growth in profits after the implementation of this methodology (Djurovic, 2020). Many well-known companies are following Agile, among them are Apple, Microsoft, IBM (Consultancy.eu, 2020).

In Georgia, the trend of applying Agile project management is in the very beginning stage. Most of the Georgian organizations do not acknowledge that there is a positive correlation between the Agile method and project success (determined by time, resources, funds, and quality).

The problem is further complicated due to the fact that there is a lack of scientific literature and reliable market research that could analyze the given issue and offer recommendations to the company management.

The research objective is to explore and analyze agile methodology/framework from practical/managerial perspective; factors that contribute to its successful initiation and implementation and possible challenges. This research will be interesting for those who are currently involved in projects or want to dive into this business in the future.

Hypothesis: **Implementation of Agile project management methodology significantly increases the success of the project.**

To test the hypothesis, the research addresses the following questions:

- **Which of the Agile Project Management methodology is introduced and used?**
- **Why was the Agile Project Management introduced?**
- **What are the benefits and challenges of Agile PM methodology?**
- **What are the key factors that contribute to successful implementation of Agile PM?**
- **How do managers evaluate the adaptability process between team and project characteristics with Agile PM?**

This paper analyzed the international studies published from 2002 to 2022. In addition, both the quantitative and qualitative research approaches, and particularly survey, were conducted among the project managers who use the agile methodology. These companies are: Ltd FlowMaster, JSC Crystal, LLC Project Management Experts, JSC Bank of Georgia, JSC Terabank, JSC TBC Bank, Georgian National Energy and Water Supply Regulatory Commission (GNERC). The collected data helped us test the theory and analyze the effectiveness of agile project management.

This paper is divided into 6 main parts. The introduction part describes the research topic, objective, key variables, problem statement, hypothesis, and research methodology. The first section presents the literature review, the development of agile project management, as well as the relationship between the agile method and company success. The second section explains the key concepts, while the third

exposes the research methodology. The fourth part deals with the research findings, conclusion, and recommendations. Lastly, the fifth section exhibits the used sources.

This paper analyzed the international studies conducted from 2002 to 2022. Literature was obtained from the following search engines: Google Scholar and PsycINFO. The acquired studies, bibliographies, abstracts, articles, and journals were reviewed, however, only 16 of them were chosen for the in-depth analysis.

2 Literature Review

In the modern business era, new developments have started to shape the companies' activities—the main focus is now on customer satisfaction, flexibility, and the ability to react quickly to the changes. In traditional, waterfall planning processes, projects develop in logical steps and phases do not overlap—whereas in modern (agile) project planning, the emphasis in on a "new set of critical features" that need to be delivered to the consumer. As a result, the Agile Project Management was developed to ensure that the iterative planning process is maintained throughout the project life cycle (Pinto, 2019).

The history of Agile development begins with the software industry. The methods include time-boxed sprints, daily meetings, and all of the stages of the Stage-Gate system. The firms following this planning process recorded the positive results: they showed significant improvement not only concerning market and productivity, but also scheduling and teamwork (Cooper & Sommer, 2018).

Traditional Project management involves very structured preplanning and control systems, whereas the agile core values focus on interactions, the ability of adapting to uncertainties, as well as to balance flexibility and stability. This kind of approach promises faster development times, less errors, and rapid solutions to new changes.

Traditional techniques limit themselves and do not allow the changes to happen. However, everyone agrees that change is a characteristic of any growing entity. Resources, schedules, budgets, environment—everything is a subject to change. Moreover, as the knowledge around the project grows, we need to respond with its capabilities accordingly (Karlesky & Voord, 2008).

Traditional Project Management is focused more on the processes, while agile on empowered people, who are constantly interacting with each other to bring the maximum value to the consumers. Moreover, when talking about the agile methodology the customer involvement at all stages of the product development is a must, unlike to the traditional one. The customer satisfaction derives from the final product; therefore, the frequency of the testing is quite important. For more details, see the Table 1 "Comparative Chart—Traditional vs. Agile Project Management" that illustrates the difference between the traditional and agile style of working:

A growing number of companies throughout the world are adopting the agile project management methods. The reason for that is the unpredictable nature of the future and changes in business and technology (Fowler & Highsmith, 2001). According to the study conducted by "Organize Agile" in 19 countries, nearly half

Table 1 Comparative Chart—Traditional vs. Agile Project Management

Categories	Traditional	Agile
Development model	Traditional	Iterative
Focus	Process	People
Management	Controlling	Facilitating
Customer involvement	Requirements gathering and delivery phases	On-site and constantly involved
Developers	Work individually within teams	Collaborative or in pairs
Technology	Any	Mostly object oriented
Product features	All included	Most important first
Testing	End of development cycle	Iterative and/or drives code
Documentation	Thorough	Only when needed

Source: Hoda et al. (2008)

of all the organizations have been using agile methods for over 3 years. According to the 83% of respondents, the top reason for using the agile method is its flexibility to respond to the changing environment, making it a quicker way to meet customer needs and stand out from competitors. Additionally, it helps the organizational culture by strengthening teamwork and collaboration which increases job satisfaction, finally leading to revenue growth and higher profitability (Organize Agile, Consultancy.eu analysis, 2020). PMI's Pulse of the Profession Survey conducted in 2017 showed that organizations waste 28 times less money because their strategic objectives are aligned to the projects (Krush, 2018).

As this topic is still in its development stage, we need to gain more knowledge on this discipline and analyze the critical issues concerning the methodology. There are many versions of agile project management, for example, Scrum, Kanban, Agile Portfolio Management, LeSS, SAFe, Extreme Programming, etc. For our research purposes, we will focus only on Scrum.

The history of Scrum starts in 1986 when Takeuchi and Nonaka published the article "The New Product Development Game". In this paper they introduced the new strategy—a team-based approach in product development (Singh, 2019). This concept was based on game Rugby where the self-organized team passes the ball in and out to reach the goal. Scrum is an agile methodology, developed and first implemented in 1993 by Jeff Sutherland, John Scumniotales, and Jeff McKenna at the Easel Corporation (Kneafsey, n.d.). Later, in 1995 Ken Schwaber along with Jeff Sutherland expanded and formalized Scrum worldwide (Lobellova, 2020). This successful strategy has been adapted in various industries, including finance, healthcare, and education.

Agile Project Management is mostly referred to as Scrum, as this is the most popular method used by the companies.

In Scrum, Product Owner, Scrum Master, and the team all work together. The model is based on three elements: the process, the artifacts, and the roles. The Scrum Master works with the Product Owner (the voice of the customer) and the team on a Product Backlog. The Product owner creates user stories to identify customer needs
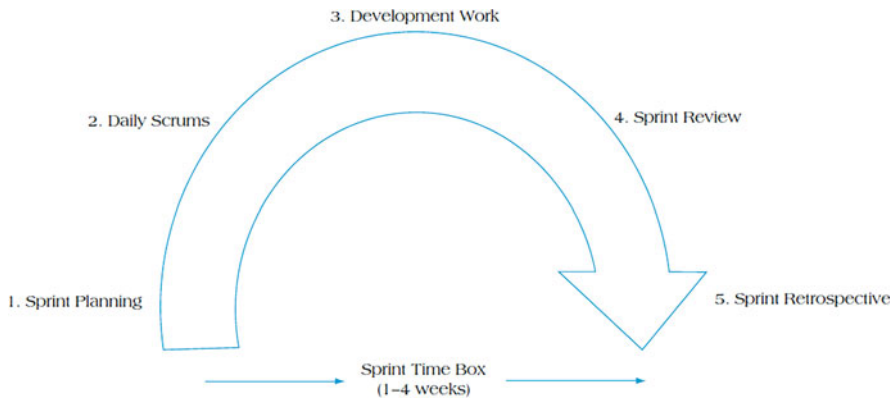
Fig. 1 Stages in a Sprint. Source: Pinto (2019)

and deliver the final product. Figure 1 shows the stages in a Sprint. The process involves several activities: Sprint Planning, Daily Scrums, Development Work, Sprint Review, Sprint Retrospective.

In Scrum, projects are broken down into sprints between 1 and 4 weeks. During the sprint meeting, the roles are distributed between the team members and tasks are prioritized. Additionally, the Daily Scrum (15 min) helps the development team to report their accomplishments and identify any problems that might prevent them from completing the next Sprint goal. A Sprint Review is held at the end of each sprint; here, stakeholders analyze the performance and make changes in the Product Backlog (Baxter & Turner, 2021). Finally, the Sprint Retrospective is a meeting that evaluates the previous Sprint, prepares the action plan about what worked, how it worked or what could have been done differently (Pinto, 2019).

"Scrum recommends to introducing the empiric process of transparency, inspection, and adaptation to your work" (Radoslaw, 2016).

In their Scrum Guide, Schwaber and Sutherland (2013) identify some key terms related to Agile Project Management:

- **Sprint**—It is a process where the actual work is being done and it should be completed before the next Scrum meeting.
- **Sprint Backlog**—It has to answer the questions: Why?—Sprint Goal; What?— Issues for the Sprint; How?—Action Plan.
- **Burndown Chart**—Chart that shows remaining work in the Sprint Backlog.
- **Product Owner**—has the responsibility of maximizing the value of a Sprint, clearly communicate the product goal and ensure that the product backlog is transparent and understood.
- **Product Backlog**—is the list of items that can be implemented by the Scrum team within one Sprint. It constantly changes in order to identify the needs of the product.

- **Scrum Master**—establishes Scrum according to Scrum Guide. This is the person who coaches and guides the team members, as well as ensures that the activities are productive and within the timeframe.

According to the 13th State of Agile Survey Report (2019), 74% of the respondents (out of 98% using the agile) indicated that they had a positive experience with Agile PM. Moreover, the survey identified the benefits resulting from this method, including: reduced costs, increased productivity, improved product quality (Top 10 Agile Software Development Trends in 2020, iCert Global, 2020).

As Gidion Peters says: "Agility is now more than ever. The current time of crisis is demonstrating how important it is to be able to adapt quickly" (Organize Agile, Consultancy.eu analysis, 2020). This applies to any field whether it is business planning and strategy or human resources and working capital.

Other research findings and statistics of 2022 show that seven out of 10 companies recognize the value of agile adoption. Besides, more than three-thirds of marketing leaders observed the increased productivity among their teams. Despite the fact that agile method is successful in various sectors, such as increasing earnings and reducing costs, it can also lead to project failure if managed poorly. Therefore, managerial support is very important for Agile PM. Nevertheless, another survey revealed that the failure rate of Agile (8%) is much lower compared to the Waterfall method (21%). Furthermore, the 2022 trends indicate that more companies are implementing the agile method because of its efficiency and flexibility. According to statistics, 43% of employees are expected to work remotely which is one more benefit of the agile method, because the team can work from anywhere and anytime (Djurovic, 2020).

Agile PM gives each team member the opportunity to be their own manager and execute their tasks, in other words, in Scrum all team members share the duty of a manager. Besides, the findings show that project teams are better able to react to some changes because of regular meetings and discussions throughout the project lifetime (Cervone, 2011).

The benefit of using the Scrum method increases with the project complexity, otherwise, the interactive process of production would lead to a waste of time.

3   Key Agile Concepts

The philosophy of Agile PM is oriented toward flexible framework. The traditional triangle constraint (scope, time, and budget) remained untouched, however, the fourth element—customer—has been added. The goal of Scrum is not to predict all steps and instructions, but to be able to react to changes properly. Hence, there are several key factors that we should define in order to understand Agile PM better.

Agile Project Management is the new way to execute and deliver the project. It offers solutions to a constantly changing environment, poor estimates, slipped timelines, and unpredictable customer needs.

The **customer** plays a crucial role in the success of the project. According to the new way, if the customer is not satisfied with the final product, the project cannot be claimed as successful. Therefore, customers have to be as close to the development team as possible. A single person should act as the voice of the customer in order to be able to act accordingly.

User Stories are defined by a customer's perspective. This helps to understand what the customer expects from the correctly developed product. Stories or features, as they are sometimes referred to as, are short and capture the customer's expectations. Moreover, it is not related to implementation details, but rather to obvious factors, therefore it can be completed in one or two weeks. Focusing on working features help the Scrum Master, Product Owner, and development team to deliver a well-designed project (Karlesky & Voord, 2008).

4   Research Methodology

The international studies conducted from 2002 to 2022 were analyzed in order to find information on the effectiveness of the Agile PM and the factors that determine its success. Literature was obtained from the following searching engines: Google Scholar and PsycINFO. The acquired studies, bibliographies, abstracts, articles, and journals were reviewed, however, only 16 of them were chosen for the in-depth analysis.

Agile PM is an emerging field for Georgian market and is on its inception stage, which is why there are not many companies that are using this approach currently. Therefore, the data was collected from only 7 project managers working in different industries (Ltd FlowMaster, JSC Crystal, LLC Project Management Experts, JSC Bank of Georgia, JSC Terabank, JSC TBC Bank, Georgian National Energy and Water Supply Regulatory Commission (GNERC)), hence the findings cannot be applied on the whole population.

The research design is based on the chronological order that allows to measure the events as they successively occur. The main purpose of this survey was to explore and analyze agile methodology from a managerial perspective within the various industries, identify the factors that impact introduction and institutionalization of the framework, benefits, challenges, and the effectiveness of the Agile PM, therefore, the tendency research was used to gather and analyze the data on the research object. Based on the length of the tendency research, the findings obtained by different researchers were examined and compared to the survey results. Furthermore, this information was valuable for making conclusions and explaining the current situation of the Georgian market.

Initially, the quantitative and qualitative research was planned in Tbilisi. The data was collected by a survey using the mixed-methods approach: close-ended questions to gather quantitative information and open-ended questions to understand the details. The criteria for choosing the research companies were whether they are using agile PM or not. The selection of the population was based on non-probability

sampling, particularly, purposive sampling, because, in this case, the focus was only on those companies that implement some form of the agile method. It is true that this kind of sampling is less representative, but the goal of this research was to study the presented issue in more detail.

The survey questionnaire was sent to the project managers of the selected companies electronically, using the GoogleDoc form that helps you to collect and summarize the findings easily. The questionnaire included demographic, neutral, evaluative, and behavioral questions.

According to the research objective, the following variables were identified:

1. Agile PM adaptability that is measured by behavioral questions, such as why the agile method was implemented within the company and what benefits it brings.

   - **Why was the abovementioned methodology introduced within your company? Please, describe the main reasons.**
   - **How would you analyze the adaptability process between your company, team, and project characteristics with agile PM methodology?**

2. Project success—using the evaluative questions:

   - **What are the benefits of Agile (Scrum, Extreme Programing, etc.) PM methodology? Please, list at least 3 of them.**
   - **What are the challenges of using the Agile (Scrum, Extreme Programing, etc.) PM methodology?**

The success of the project is a multidimensional variable that depends on many different, however, intercorrelated factors. This key concept unifies various elements like organizational culture, teamwork, benefits, and corporate values. Therefore, this complex variable helps us comprehend the phenomenon as a whole.

5   Research Findings and Analysis

The survey results were summarized by GoogleDoc. The Agile PM is still on its infancy stage in Georgia; therefore, the data was collected from the 7 companies' project managers. 57% of the researched organizations belong to the Finance and Banking industry, the remaining 43% is equally divided between Education, Project Management, and Public Services. The findings showed that all these companies are actively using different methods of Agile PM to manage their projects. Moreover, most of them apply several methods within their companies. For example, LLC "Project Management Experts" pointed out 3 approaches: Scrum, Kanban, and XP, while JSC "TBC Bank"—two: Scrum and Kanban; besides, Ltd "FlowMaster" mentioned that they are implementing their own tools in addition to Scrum. According to the results, Scrum is the most popular out of all the mentioned methodologies, 71% of the companies work with it either solely or in combination with other methods. The survey revealed an interesting fact regarding the years of

operation of the companies and the duration of introducing Agile PM within their projects. Despite the fact that 71% of researched companies have existed for more than 7 years and 29% between 3 and 7 years, the majority indicated that they started using agile 3–4 years ago. Furthermore, 100% of examined organizations continue applying Agile PM since its introduction.

Another valuable information was obtained regarding the resources. Most of the investigated companies are considered large in terms of the human capital: 57% have more than 250 employees, 29% less than 50, and 14% between 51 and 250. However, all of them stated that they had to use both internal and external resources to implement Agile PM within their company. The main reason behind this decision was the lack of experience and professionalism of internal staff concerning this new approach. For example, JSC "TBC Bank" mentioned that initially they had support from external consultants, but after retraining their employees, they were able to rely only on internal resources.

The survey also explored the motivation of introducing the Agile PM. Some of the companies said that they were advised to implement Scrum for software projects (JSC "Bank of Georgia"), while others noted that it was a good fit for their corporate culture that strengthens teamwork, increases the quality of the projects, and decreases the schedule slippage. It is important to state how the adaptability process was managed between the company, the team, and the project. According to the responses, the process can be assessed as challenging but feasible. For example, for small companies like Ltd "FlowMaster" the procedure is quite smooth and does not require much effort, however, for medium-sized and large organizations the proceedings seem more complex and need extra resource investments, time to see the results ("Georgian National Energy and Water Supply Regulatory Commission" pointed out at least 6 months) and practical experience to adjust to new approaches.

The collected data indicated the main benefits of the Agile PM. All project managers indicated the importance of teamwork, improved efficiency and productivity, increased customer satisfaction, and shorter time to market. In addition, some of them mentioned the simplicity of the method, daily communication and follow-up, self-management, as well as the ability to view all the tasks concerning a single project. In addition to the benefits, there are some challenges that the companies face while managing the projects. For example, JSC "Crystal" notes that Scrum requires a dedicated agile team for each product group, while JSC "TeraBank" believes that sometimes there is a loss of control over the processes. On the other hand, LLC "Project Management Experts," JSC "Bank of Georgia," and "GNERC" name the following issues: reskilling the existing employees and changing their mindset, prioritizing right features, clear communication, and transparency.

According to the primary research, we can say that the researched companies are trying to overcome the challenges related to Agile PM and continue using it as the main tool to manage the projects. Despite the fact that the project managers have only been applying this method for relatively short period of time, all of them believe that creating products with Agile solves customers' problems and offers a great framework for projects to succeed. Moreover, they reckon that Agile is the best approach for regulating and controlling the whole organization and processes.

The results obtained from this survey cannot be applied on the whole population, because the research was only done among the 7 companies located in Tbilisi. Therefore, we can only analyze the current market situation.

The research objective was to analyze agile methodology from a managerial perspective and determine the factors that contribute to its successful initiation and implementation. According to the secondary and primary research analysis, we can say that Agile project management improves efficiency and productivity, time to market and strengthens the teamwork. The conducted survey verified the presented hypothesis that the implementation of Agile project management methodology increases the success of the project. Even this small research can serve as proof of a positive international experience.

The findings highlight an interesting view on the agile project management approaches. The main methodology used is the Scrum method. The studied companies have been using this method for 3–4 years. It confirms what the secondary literature discusses about the recent increased interest in Agile PM. Furthermore, the project managers noted that the projects implemented by agile teams are of better quality, because the methodology allows more freedom and adjustment of the skills. That is a great benefit as it significantly contributes to the success of the project. Another key factor is time to market—scheduling and flexibility helps the team to develop the product faster. Hence, we can say when the project team collaborates with each other, it does not need to stick to pre-planned activities and experiences less stress, therefore it can deliver better results and make the customer happy.

One critical issue concerning the implementation of the Agile methodology is organizational culture and the resistance to change. The study has brought some interesting insights on the adaptability process between the company, team, and project characteristics. The findings reveal that this was achieved by using the correct adoption strategy that includes transparency, good communication, and an open mindset. Moreover, training and coaching, as well as practical experience had a notable impact on overcoming the difficulties.

The data collected from primary and secondary research gives us quite a vast amount of information on the success factors of Agile Project Management and its recent popularity. The findings also indicate that Georgian companies are ready to invest more resources into Agile as they clearly see the positive tendency of this approach. The implementation of a new method is challenging, however, the studied companies showed that with the right management and sufficient situational analysis you can reap the maximum benefit.

6   Conclusion

The client's satisfaction is a key determinant of the project's success. The unstable environment and changing customer preferences significantly impact the project's performance. Therefore, delivering the promised quality without schedule slippage and budget overrun can extend the project time. Agile Project Management approach

is the key to overcome such obstacles and enjoy more flexibility and independence throughout the time of the project. This research showed that successful implementation of Agile PM depends on many factors, including: organizational culture, right management, and teamwork.

The limitation of this study is the population selection process, because it was based on non-probability sampling that decreases the credibility level and increases bias. The purposive sampling is less representative and cannot be used to generalize the finding results.

The strong side of this research is that the data was collected using the mixed-method approach. The quantitative survey showed the countable results, while the qualitative helped us to understand the reasons, benefits, and challenges behind choosing the Agile Methodology. The obtained information from the project managers' responses provides valuable insights on the current market situation in Georgia.

As mentioned before, there is a lack of scientific studies and reliable market research in Georgia, therefore, this work can be considered as a significant addition to the existing literature.

Finally, the recommendation to future researches is to select the correct sample size to conduct deeper research by using observations and interviews. This will help them to apply the findings to the whole population and analyze the long-term trends. The research topic can be adapted with a focus on the satisfaction of using the agile project management methodology in terms of project cost, schedule, and performance.

References

Baxter, D., & Turner, N. (2021). Why Scrum works in new product development: the role of social capital in managing complexity. *Production Planning & Control*. Retrieved May 05, 2022, from https://www.tandfonline.com/doi/full/10.1080/09537287.2021.1997291

Cervone, H. F. (2011). Understanding agile project management methods using Scrum. *OCLC Systems & Services: International Digital Library Perspectives, 27*(1), 18–22. Retrieved May 16, 2022, from https://www.emerald.com/insight/content/doi/10.1108/10650751111106528/full/html

Cooper, R. G., & Sommer, A. F. (2018). Agile–stage-gate for manufacturers. *Research-Technology Management, 61*(2), 17–26. Retrieved May 15, 2022, from https://www.tandfonline.com/doi/abs/10.1080/08956308.2018.1421380

Djurovic, A. (2020). 20^+ *Astonishing Agile Adoption Statistics for 2022*. Retrieved May 16, 2022, from https://goremotely.net/blog/agile-adoption/

Fowler, M., & Highsmith, J. (2001). *The Agile Manifesto*. http://andrey.hristov.com/fhtstuttgart/The_Agile_Manifesto_SDMagazine.pdf

Hoda, R., Noble, J., & Marshall, S. (2008). Agile Project Management. In *New Zealand Computer Science Research Student Conference 2008*, April 2008, Christchurch, New Zealand (pp. 218–221). Retrieved May 02, 2022, from https://www.researchgate.net/publication/228983124_Agile_Project_Management

iCert Global. (2020). *Top 10 Agile Software Development Trends in 2020*. Retrieved May 10, 2022., from https://www.icertglobal.com/top-10-agile-software-development-trends-in-2020/detail

Karlesky, M., & Voord, M. V. (2008). Agile Project Management (or, Burning Gantt Charts). In *Embedded Systems Conference Boston*. ESC 247-267, October 2008. Boston, Massachusetts. Retrieved April 20, 2022, from https://atomicobject.com/uploads/archive/files/EmbeddedAgilePMPaper.pdf

Kneafsey, S. (n.d.). *A short history of Scrum*. https://www.thescrummaster.co.uk/scrum/short-history-scrum/

Krush, A. (2018). *Why 50% of IT projects fail, and how to NOT let that happen to you*. Retrieved May 16, 2022, from https://www.objectstyle.com/agile/software-projects-failure-statistics-and-reasons

Lobellova, V. (2020). *The history of Scrum: How, when and why*. https://www.scrumdesk.com/the-history-of-scrum-how-when-andwhy/

Organize Agile, Consultancy.eu. (2020). *Half of companies applying Agile methodologies & practices*. Retrieved April 25, 2022, from https://www.consultancy.eu/news/4153/half-of-companies-applying-agile-methodologies-practices#:~:text=Well%2Dknown%20companies%20that%20use,%2C%20Microsoft%20and%20Procter%20%26%20Gamble.

Pinto, J. K. (2019). Chapter 11 – Advanced topics in planning and scheduling, agile and critical chain. In *Project management, achieving competitive advantage* (5th ed., pp. 386–397). Pearson.

Radoslaw. (2016). What's the difference between a Project Manager and a Product Owner? *Merixstudio*. Retrieved April 30, 2022, from https://www.merixstudio.com/blog/difference-project-manager-and-product-owner/

Schwaber, K., & Sutherland, J. (2013, April 21). *The Scrum Guide*. www.scrum.org/Portals/0/Documents/Scrum%20Guides/2013/Scrum-Guide.pdf

Singh, M. (2019). *What is Scrum methodology? & Scrum Project Management*. https://www.digite.com/agile/scrum-methodology/

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Revisiting Organizational Change Management (OCM): A Context-Sensitive and Dynamic Approach of Change

Martin Kupiek

1 The Relevance of Organizational Change Management (OCM): Challenging Linear Thinking

Many events during the last two decades, for example, the accelerating globalization and digitalization, numerous demographic changes, and currently the pandemic outbreak as well as the Ukraine war affected—and is still affecting—almost every country in the world, society, and of course enterprises. Organizations are thus being faced with a situation, where fast and yet meaningful change must be created to be able to respond and adapt to the changes in their external environment. Even though major disruptive forces have always been around the most prominent difference between past and present is the speed and the scale of change on a global level. Consequently, business needs to change as well by adopting new ideas and strategies to restore, for example, their global supply chain as well as to invest in and to build up local production facilities which will force almost every organizations to undergo radical changes. The digital transformation requires to adopt agile working principles, such as project-based organizations and more virtualization to keep up with this change speed. However, these ideas can only be successfully implemented when accounting for the changing people, that is, to take advantage of the increasing relevance of the role of diversity, demographics, and gender effects. The future of work will be shaped by aspects like artificial intelligence (AI) that will lead to job losses as well as the creation of entire new jobs. Executives in charge are confronted with many new challenges beyond their daily routine, because all of these influences need to be managed—but differently compared to the past.

Consequently, change management must also change—a new change paradigm be formulated and introduced. It is based on the idea that there is always change, at

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any time, and at any unit in the organization resulting in the challenge that can only successfully be accomplished by adopting a portfolio perspective and leave the approach of sequentially working on single change projects behind. This means implementing a more bottom-up dynamic flow of knowledge, ideas, problem-solving initiatives, and innovation compared to the past subsequently strengthening the business by major change and banning change fatigue or overload as an experience of organizational members. This is especially important considering the particular situation of rising states like Georgia who need to invest in multiple areas of their economy to stimulate growth. Foreign investors need to find a favorable financial and economic environment to realize growth opportunities in new markets. Establishing subsidiaries and relating to a new culture means very often to start change and integration projects aimed at improving the understanding for the nature of the workforce and explaining their organization culture. Consequently, a two-way adaption process needs to be initiated to mutually seize all opportunities for both parties—the investing company and the local workforce (Gibbons, 2019a, 2019b).

A prerequisite in this process is, that change leadership, structures, processes, and skills for engagement are widespread in the organization, for example, through providing dedicated training programs for leaders and employees on organization culture, change theory and practice aimed at conveying this critical knowledge to first stabilize and then continuously improve the performance on all levels of the organization. Hence, all leaders on all levels should adopt an internal change leader attitude focusing on change strategy and building change agility—and stop firefighting—in the organizational units. Engaging with change every day and modeling leadership behaviors as well as pursuing roads for personal change are cornerstones of this element. Also emotionally, the willingness to become involved must be present, since there are no top-down guidelines and no justification for action, or "cases-for-action" is enforced from the top to down.

Only then, the focus on goals—the WHY and WHAT—of the change strategy can be achieved. By creating the context of change and challenging conventional wisdom, the change portfolio consisting of multiple single change initiatives can ultimately deliver long-term change capacity and medium-term program synergies. Finally, it permits the monitoring of potential change risks and change performance across the entire business.

Eventually, the classical approaches of change management which are common in thinking and applying come into action—the focus on processes—HOW to maneuver through the transition state from today to the future. In this stage the focus is on single-project effectiveness in a series of change projects, thus, delivering cumulative project results and long-term value. Organizing events, using new technology-mediated change tools, and engaging people to align the organization's culture are one of the critical tasks to safeguard an optimal utilization of program resources. Furthermore, it permits an improved mode of handling stakeholders and secures the continuous development of current and future leaders (Gibbons, 2019b; Kupiek, 2021).

This new thinking extends and enhances the traditional way of conceptualizing and implementing organizational change. Even though there is a wide range of

different methods toward change in the academic literature and practitioners' experiences, many change approaches follow a rather traditional roadmap. These familiar semi-standards are suitable for implementing these massive changes only to a limited extent and other ways of implanting change that sustain the speed of change are rarely applied. Furthermore, the relevance and importance of emotions of organizational members are usually grossly understated resulting sometimes in extreme positions and reactions of employees, such as disappointment and fear or infinite confidence and euphoria. Therefore, providing a basic orientation regarding the most popular change approaches is necessary when managers are faced with the design of a change project (Sackmann, 2021).

Questions arise, such as, "How to select the most appropriate approach?" or "What criteria have to be applied?" are common. At this point executives need to understand what organizational culture they are living in, because culture determines the opportunities and risk associated with change. But the list is not yet ending. Selecting the adequate communication content and channels may sometimes create unforeseen problems, again depending on the characteristic of the organizational culture. A driving force is certainly the particular nature of the organization, its size, history, and openness to change as well as the degree of positive attitude toward current information technology such as social media and other electronic devices to achieve a scalability that is fast and complies to professional standards of communication.

The struggle to create meaningful change including new behaviors, procedures, structures, and business processes as well as a renewed organizational culture is a challenging task. Every leader has probably experienced in his/her career some kind of change management training to gain a basic understanding about what is change management all about. This knowledge is usually considered a "soft skill" and only experts should deal with it. Referring to the above-described situation this is not sufficient anymore. Instead, each manager should be able to understand the most important differences in change approaches before starting a costly change project. At best drawing on evidence-based knowledge enabling a change approach that fits the organization would be the ideal. Stouten et al. (2018, p. 752) explain, that "One consequence is practitioner reliance on popular change models that more often cite expert opinion as their foundation rather than scientific evidence." They examine the seven most popular and widely used practitioner-oriented change models and evaluate them against the findings from academic research covering more than 50 years of change management developments. However, the sheer number of existing change approaches is overwhelming and quite confusing. In 1985 already, Bullock and Batten (1985) developed an integrated, four-phase model of planned change based upon a review and synthesis of more than 30 models of planned change. They developed a four-phase model of planned change that breaks down the process into exploration, planning, action, and integration. This effort was followed by the development of many more approaches and were categorized as emergent change approach to indicate the beginning of a more volatile environment that requires to respond to changes in a more flexible manner (Kupiek, 2016).

Stouten et al. (2018) present in their opinion seven "canonical" (i.e., popular, and widely used) prescriptive models which have not been subject to direct empirical study, despite their popularity and widespread circulation in academic and popular journals or practitioner-oriented websites. In chronological order they present the models of:

1. Kurt Lewin's Three-Phase Process (1948)
2. Michael Beer's Six-Step Change Management Model (1980)
3. Cooperrider and Srivastva's (1987) Appreciative Inquiry (AI)
4. Arnold S. Judson's Five Steps Approach (1991)
5. Rosabeth Moss Kanter, Barry Stein, and Todd Jick's Ten Commandments (1992)
6. John Kotter's Eight-Step Model (1996), and
7. Jeff Hiatt's ADKAR Model (2006)

Summarizing the most important findings of the comparison of all approaches shows that there is some agreement regarding those activities that enable organizational change interventions. Nevertheless, all models ignore for the most part the larger history and thus its cultures and values of an organization and its management with respect to change.

Also, they tend to assume a top/down planning process which appears to address the typical audience of these writings, for example, senior executives in organizations. The importance of planning underscored by practitioner models is consistent with academic evidence that planning stimulates confidence in leaders and that planning improves outcomes. However, the above-mentioned models recognize the relevance of bottom-up motivation and participation on the part of lower-level employees in support of change—but are less specific on how to enable or activate it. The idea to empower others is confirmed by scientific research, which highlights both top-down and bottom-up approaches in doing so. The prescription to develop change-related knowledge, skills, and ability is supported by research highlighting the importance of learning in change. Advice to engage in ongoing monitoring and strengthening of the change process is also supported by research on the value of feedback and knowledge of results for improving performance. At the same time, the prescription to institutionalize the change by aligning structures and systems with the newly introduced practices and processes is understudied. The importance of having a vision in a change project is the consensus view among practitioner models, even though there is little research on its characteristics. However, vision communication, for example a good change story, generates a high degree of trust and fairness perceptions.

Based on the brief review of the most popular current change management approaches, this book chapter suggests an evaluation format to support the selection of an appropriate change model followed by an outline of organizational structures that are suitable and efficient for managing a portfolio of change projects in the organization. The conceptualization of change leadership and change strategies to clarify the focus of change and preparing for adopting a new role of leaders are summarized as well. Furthermore, communications ideas and concepts as well as the potential of digital mediated change tools to scale change will be presented.

2 The New Approach: Toward a Context-Sensitive and Dynamic Way of Managing Change

Gibbons (2019b) enhances this conceptualization by introducing an agile change approach considering that change must address the increasing speed of change in the external and internal environment. He proposes four elements, that is a new change paradigm, change leadership, as well as change strategy and tactics which have been outlined above. He suggests starting to rethink the way how executives, C-level managers, and employees think about change because in this sense the change methods used are not up to scratch, or organizations and their leaders ignore those methods and expertise of change advisers. Gibbons (2019b, p. 70) key message is:

> We start the 2020s with two strikes: change management still full of myths and executives still too skeptical of its value.

In the context of digital transformation where change management has been discussed as one of the most critical and relevant methodologies it appears to be unlikely that these projects can be completed successfully when current approaches stem from the pre-digital era. Even if the old methods were robust, it has to be assessed if they are still well suited to the way organizations are structured today. A first idea is to consider how organizations perceive change today and to look at novel ways to conceptualize change.

As already noted above this process begins with the adoption of a new change paradigm that assumes that change is always around—at any time and location of the organization. As a result, several small and large change projects must be carried out simultaneously, at different times, in parallel, and an organization-wide willingness to change must be coupled with the necessary skills for that change. Willingness to learn is a prerequisite since knowledge, ideas, and problem-solving must be applied dynamically and flexibly in each situation. Accordingly, leadership skills, structures, and processes must be anchored throughout the entire organization and cannot—as it is common practice today—be transferred to change agents or external consultants. A vital component of this approach is the ideas of establishing a new form of change leadership appointing an internal manager who deals with change projects as part of his daily routine starting with the formulation of the change strategy and particularly the development of a change story or strategic narrative. Thus, change becomes a "commonplace" competence in the organization that is mastered by every employee and is not delegated to anyone external. Leadership is especially critical before a project is set up and during the first phases of implementation, because clear, trustworthy communication and a fair discussion about conflicts and differing opinions are central elements of leadership in this stage. The next tasks focus on developing a change strategy, that is on "WHAT" needs to be achieved, for example what objectives in terms of revenue increase, cost reduction, better service, efficiency, and effectiveness in the execution of business processes. Working on several change projects at the same time is a challenge and requires a professional project management including the tools enabling planning, execution, and monitoring of the

progress. Additionally, this leadership role entails a new task—the context activator—creating the support structure as well as controlling all risks identified. If modifications to the initial plans are necessary, a team evaluation and decision have to follow. Furthermore, the development of the long-term change competencies of employees must be balanced with medium-term program or project synergies.

Finally, suitable change tactics must be planned and executed focusing on the process, i.e., "HOW" the change strategy should be realized: what events should take place when, which communication and collaboration tools should be used, and how should/can/must employees become involved. The organization and its processes, culture, and people must be brought "under one conceptual umbrella," and project results must be achieved at the same time. Controlling and evaluating the change portfolio regarding their effectiveness and impact is aimed at balancing cost-benefits to avoid making large investments in, e.g., new IT architectures, which are relevant only for a small part of the organization and do not benefit the entire organization. Consequently, short-term action and achieving results based on a solid change strategy are in the center of the attention. The use of project resources is optimized, leaving sufficient time and leadership energy to take care of external and internal stakeholders. The symbolic significance of the behavior of key stakeholders is particularly important, as they are role models who must visibly exemplify new behaviors to lend weight and authenticity to the change (Gibbons 2019a).

Stouten et al. (2018) expanded their examination by presenting insights from change management research aimed at helping organizations and change managers to implement change more effectively. Change practitioners still need to adapt these ideas to the context they are being faced with. Stouten et al. (2018, p. 779) specify:

> What constitutes a compelling vision for one organization or group of people may be irrelevant to others. Having top management as key change agents may be appropriate in small local organizations in a stable environment and difficult in a large multinational organization in a turbulent environment. As such, we urge practitioners to take time for deliberation, reflection, and experimentation as they approach planned change, recognizing that all evidence-based principles are likely to require some local adaptation and adjustment. Pilot testing and experimentation can be essential to identifying how best to apply evidence-based change principles, taking into account the capabilities of the organization's leaders and employees and needs of its clients and other stakeholders.

They emphasize the utmost importance of goal setting and explaining the WHY of the intended change. Aligning individual, team, and organizational goals in the context of change is necessary to navigate through the web of behavioral processes involved at all levels. Numerous findings in practitioners and academic literature underscore that effective change serves the goals of multiple stakeholders and is likely that benefits unfold when the goals help to meet important needs they hold in common (e.g., opportunity, security, growth, and financial well-being). Organizational change is likely to be more readily implemented when it targets multiple stakeholder needs in its goals and interventions. Thus, attention to the goals of employees and the employer offers a renewed viewpoint on ways to produce acceptance and support for change. Stouten et al. conclude their overview by pointing out that there is little evidence regarding the appropriate speed with

which change should be implemented. Practitioners should not make assumptions about "the right speed." Instead, they advise to pay attention to how well the necessary processes of change are being implemented.

2.1 The Interdependencies of Organizational Culture and Change

This overview has provided some insights regarding the most prominent change approaches and illustrated the great variety of ways in which change can be implemented. Different models with many similarities and yet distinct variances are available. Benefits and drawbacks from a practitioners and academic perspective have been outlined, but the pressing questions is now how to select an appropriate model within a specific context of an individual organization with unique stakeholders and employees. Cameron and Green (2009) suggest selecting an approach based on the understanding of the respective organizational metaphor of the organization, which has been conceptualized by Morgan (1997). Mapping, for example, Kotter's approach with the images of the "Machine," "Political System," and "Organism" image requires a good understanding of Morgan's theory and deep insights in the organizational culture, that is to analyze how a machine works and why the image of an organism applies at the same time along with the political aspects of an organization. Actually, this model appeals to senior managers because it is straightforward and linear focusing at the beginning on mobilizing organizational members and then delegating the detail implementation. Agile ideas, a portfolio of change projects, and the cyclical characteristics of a change process are not considered.

A more suitable approach of selecting a change process is to examine the existing organizational culture seeking hints that can help to use a model that supports the change process. Sackmann (2021, p. 23) provides an excellent overview of the overarching conceptualizations of culture that allow to develop a basic understanding of organizational culture. She asserts that:

> Organizational culture consists of a set of basic beliefs commonly held by the members of a group. This set is typical for the group and
> – influences the group members' perceptions, thinking, actions, and feelings,
> – may become manifest in the group members' actions and their artifacts,
> – evolved from the experiences of the group members and may further develop in their interactions,
> – is learned and passed on to new members of the group,
> – drops out of awareness over time.

This definition translates into three perspectives of culture. The "Variable Perspective" assumes that organizations have a culture that consists of different parts forming a homogenous whole and fulfill important functions such as control, which can be managed. Founders and subsequently top leaders are the source of culture as well as source for adaptation and change. Change strategies usually denote to single

components of the organization. The "Metaphor Perspective" assumes that organizations are a culture that are socially constructed and negotiated empathizing sensemaking and complexity reduction functions. It provides a cognitive map for orientation for its members. Every organizational member is a source of culture and adaptation is referred to as evolutionary developments resulting from social interactions leading to new patterns of interpretation. The "Dynamic Construct Perspective" maintains that culture is a multiple dynamic construct, socially constructed and negotiated. Organizations are cultures and its carriers develop culture manifestations in their social interactions. It also provides cognitive maps and scripts for their members and thus guides them in their perceptions, thinking, and behavior. The sense-making and complexity reduction functions may emerge as helpful or obstructive in a change process.

All three perspectives can adopt different characteristics of an organization. Table 1 provides an overview of culture imprints that reflect the degree of organizational culture diversity. For illustrative purposes the types of possible cultures are reduced to two opposing imprints, i.e., evolutionary and conservative, to underscore the possible diametrically position of organizational culture forms.

Based on the analysis of the organizational culture including its underlying emotions a suitable approach can be selected. If the particular culture tends to be evolutionary, a learning-based approach such as Hiatt's (2006) ADKAR seems to serve the purpose of the organization to secure the existence of the organization and its members, and that financial success is just a means to end. Objectives are fixed but the process of how to achieve them is flexible.

If the organization tends to be more conservative in nature with dominant materialistic objectives and fixed processes that are intended to secure stability, then Lewin's or Kotter's approach might better fit the change context. Individual effort, financial success, and little cooperation describe the purpose and goal of the organization. Top-down management approaches with strong control mechanisms require a more structured and prescribed process to satisfy the leaders' needs for control.

These findings suggest to extensively examine the relevance of emotions in change projects. The lack of integration and conceptualization of emotions in existing approaches and the still powerful predominance of consulting firms in the OCM market combined with the absence of sufficient OCM knowledge especially of C-Level executives and decision-makers in many organizations require more evidence-based models of OCM to increase a successful completion of Change projects.

2.2 Considering Employee Emotion-Based Responses to Change

Within all approaches, however, responses to organizational change comprise a broad range of cognitions, emotions, and behaviors than typically considered.

Table 1 Overview of types of organizational culture (adopted from Sackmann, 2021; Kupiek, 2021; Müller, 1997, own research)

	Types of culture imprints	
	Evolutionary	Conservative
Nature	• Cooperative • Humanistic • Social • Equal rights • Flexible and self-organized • Organization is a network and organism	• Authoritative • Rigid structures • Centralistic and hierarchical • Rivalry strong in nature • Organization viewed as machine or psychic prison
Purpose and goals	• Sustain the existence of the organization and its members • Financial success is a means to an end to secure existence • WHAT is fixed—HOW is flexible	• Leadership representatives have absolute power • tangible goals are predominant • stability is secured through rigid processes • financial success determines status in the hierarchy • lone fighter ideal and only little cooperation among employees • The WHAT and HOW are fixed
Rules	• Solidarity and agreement to goals is desirable from Bottom-up • Minimal control • Decentral decision-making • Team performance is rewarded	• Collective rules, Top-Down only, strict control individual performance only is rewarded, sometimes even command and obedience behavior without objections
Rituals	• Only a few rituals or traditions, because of permanent changes	• Many complete submission and conformity rituals • Leadership is manipulative
Emotion	• Mostly medium to high emotional arousal and • Pleasant perceptions • Low aggression level • Intrinsic motivation important • Actively dealing with emotion on all levels is appreciated	• Mostly a mixture of medium to high emotional arousal and • Unpleasant perception • Rivalry with medium to strong aggression • Unfriendly climate with distrust • Extrinsic motivation only is relevant • Emotions are suppressed or used for intimidating peers • Emotions are not actively dealt with

Oreg et al. (2018), for example, emphasize that emotional and thus behavioral responses are characterized not only by the intensity of their perception (e.g., strong or weak feelings of frustration or enthusiasm) but also by the degree of arousal (e.g., strong or weak activation leading to getting involved or adopting a passive attitude in the process). This may open up a very different perspective on how change develops and how it is experienced by its recipients over time geared to different events or situations in the process. These experiences play a central role—one well beyond "resistance" in the overall unfolding of the change.

Oreg et al. (2018) refer to this context as change recipients' response to change events as emotional episodes. Each event over the course of the change project

triggers a sequence of emotional processes integrating the emotion, cognition, and behavior that arise in response to the triggering event. Consequently, each communication effort must be customized and carefully crafted to support a positive attitude toward change during each change stage. Oreg et al. (2018) continue and suggest applying a conceptualization of emotion where purely affective experiences are organized by two fundamental, independent dimensions, that is, degree of pleasantness and degree of arousal or activation (Kupiek, 2021; Feldman, 1995; Russell, 1980, 2003). The pleasantness/unpleasantness dimension or positive/negative perception of inner states could be expressed by feelings such as joy, elation, contentment, and happiness (Seo et al., 2004), whereas unpleasantness, or negative affectivity, is associated with feelings such as anger, anxiety, or sadness. The degree of arousal or activation refers to the energy associated with emotion ranging from high activation to deactivation. Low activation emotional responses include, for example, calm and apathetic, whereas high activation responses include excited and angry (Seo et al., 2004). This concept allows to arrange for a four-quadrant image that combines different emotion types: 1. negative and deactivated (e.g., depressed), 2. negative and activated (e.g., anxious), 3. positive and activated (e.g., excited), and 4. positive and deactivated (e.g., satisfied).

Applying this model in the context of a change project valuable insights can be derived as input for change communications activities (Oreg et al., 2018). Quadrant 1 represents a negative and deactivated status and thus a form of change disengagement. Change recipients feel probably despaired, sad, helpless and action tendencies associated with these passive responses are comparable to withdrawal behavior, job dissatisfaction, absenteeism, doing nothing, and making errors. The implications for change management consist of slow progress, limited feedback, and negative attitudes and behaviors. The classical change resistance behavior is associated with unpleasant feelings such as stressed, angry, and upset and high activation resulting in major setbacks in progressing the change. Change resistance may also translate into employee turnover, which may have significant negative consequences for change, because it incurs additional costs for recruiting and training new employees, poorer organizational and team performance, especially in knowledge-oriented organizations, and increases remaining employees' workload, which lowers their work morale, and may have negative contagion effects attitudes and behaviors and lower well-being. Nevertheless, change resistance behavior may also have benefits. First, recipients who actively express their disagreement with the change may find the expression of their resistance stress relieving. By articulating their objections, they may feel less need to withdraw from the organization. More important, recipients' open expression of their adverse attitude toward the change may benefit the planning stage through relating valuable information that can be used for improving the current change process (Oreg et al., 2018). Hence, change resistance could also mean recipient engagement.

Change proactivity combines positive or pleasant feelings with a high level of activation expressed as excited, elated, enthusiastic. The action tendencies are generally intended to positively influence the change and its implementation. Change proactivity is self-initiated i.e., recipient initiated, future focused, and

oriented toward improvement. It refers to responses to organizational events that are initiated by others and is similar to self-determined autonomous forms of extrinsic motivation, such as identification in which individuals' actions are internally driven but still perceived as having an external locus of causality (Ryan & Deci, 2000). Usually, change recipients actively engage in supporting the process, for example, by expressing support for organizational change through further developing its design and implementation. Change proactive responses will therefore be particularly valuable in the planning stage of the change and the combination of positive and active emotions may also elicit creative solutions and new ideas for reconciling disagreements regarding a change approach, and for envisioning a different, better future for both the employee and the organization (Baas et al., 2008). Finally, change proactivity in response to change events is likely to generate outcomes that enhance and improve the design, and thus long-term results of the change for all organizational members.

Change acceptance combines positive emotions and a low activation creating feelings such as satisfied, calm, relaxed, and content. Change behavior can be described as passive support, for example, change recipients who feel content following the announcement of a new change may be passively supportive and exhibit behaviors such as attentive listening and unobtrusive compliance. Furthermore, they tend to display willingness, readiness, openness for change as wells as and intentions to support the change. Change acceptance can thus be linked with positive outcomes for recipients, for example, improved well-being as well as a smooth implementation of change. However, it is not likely to produce constructive feedback for change agents to modify or improve ongoing change and may have a differential impact on the effectiveness of the change. A positive result expressed as a smooth implementation of the initiative comes with little or no meaningful feedback for change agents during planning. This needs to be kept in mind when activities in the planning and implementation stage are carried out and prioritized.

Figure 1 depicts the relationship of the perception of pleasant or unpleasant feelings as well as the degree of activation or arousal, that is, are the emotions felt are rather very strong or low leading for example to extreme frustration and hence rejection to whatever the tasks is or to a high degree of activation with strong pleasant feelings resulting in enthusiasm and excitement about the assignment. In the case of a low degree of activation the results are disengagement of acceptance depending on the range of pleasant or unpleasant feelings. This model incorporates both dimensions and thus provides a better view of how emotions and activation levels lead to different behavioral and affective responses toward change (Oreg et al., 2018; Kupiek, 2021, own research).

Based on these insights an attempt to select the "right" change model by combining change and culture may be carried out. Culture imprints are mapped with the various change models indicating what established a suitable result for the particular organization (Table 2).

The above presented change models represent only a limited number of key factors to indicate the general direction of how change is implemented. A top-down culture will probably encounter severe problems and suboptimal results

High	Change Resistance (e.g. stressed, angry, upset)	Change Proactivity (e.g. excited, elated, enthusiastic)
	Change Disengagement (e.g. despaired, sad, helpless)	Change Acceptance (e.g. calm, relaxed, content)

Degree of Activation

Low

Strong   Low   Strong
Unpleasant Feelings   Pleasant Feelings

Fig. 1 Recipients' emotional responses to change (adopted from Oreg et al., 2018; Kupiek, 2021, own research)

in achieving the desired future state if executives decide to adopt a co-creation approach—it would be opposed to the existing culture, and nothing is worse than working against the present culture. Instead, these organizations were better off to first change the culture even if it takes place based on a limited scope in some subdivision or smaller departments.

Once a change approach has been selected based on an organization culture assessment the critical question arises how to implement change. Usually, external consultants pitch a competitive proposal and will be selected. They start working and senior managers will be called on to give a speech in a town hall meeting, invited to projected status meeting, and monitoring the progress of the project, or provide input about content related issues. The project will be closed, success declared, and everybody goes back to their daily routines. And for the next project the entire process will be repeated. This is a costly process, takes much effort and energy. Especially larger organization might want to consider bundling the change know-how in a separate unit reporting, for example, to the strategy department, so that it becomes visible as a knowledge center for change.

Change is a result of a strategy formulation process usually dealing with programs that are designated to increase revenues and profits grow the stock price, gain market share. Any of these adaptations require some kind of change in the organization. A change office headed by a The Chief Change Officer (CCO) could provide the necessary skills and know-how to lead and to manage the change portfolio from the very beginning until completion thereby stage seizing the benefits of early bird starters. Tasks and deliverables of a Change Office, for example, may encompass

Table 2 Mapping change models with organizational culture (own research)

Culture imprint->	Focus of model	Evolutionary	Conservative
Change model		Applicable within culture	
Lewin (1948)	• Three-phase change process • Resolution of social conflict in a stable environment	Beneficial if change is limited in scope and time	Beneficial
Beer (1980)	• Six-Step Change Management Model • Co-creation principles	Beneficial if diagnosis is important	Beneficial if diagnosis is important
Cooperrider and Srivastva (1987)	• Appreciative Inquiry • Future orientation	Very beneficial if future needs to be created	Could be beneficial depending on stakeholder attitudes
Judson (1991)	• Five Steps Approach • Emphases on variability and adjustment of change • Politics and coalition but role of CEO reduced to advisor • Communication planning important	Beneficial if diagnosis is important and analysis of present problems and need for change are considered key	Beneficial if diagnosis is important and analysis of present problems and need for change are considered key
Kanter (1992)	• Ten Commandments • Power & Politics	Not beneficial	Beneficial, especially on diagnosis
Kotter (1996)	• Eight-step model • Mobilizing at start	Beneficial in later stages	Beneficial for large organizations
Hiatt (2006)	• ADKAR Model • Learning	Very beneficial if learning and knowledge is important	Could be beneficial depending on stakeholder attitudes
Gibbons (2019a, 2019b)	• 7 Steps of agile change • Emotion explicitly denoted	Very beneficial	Could be beneficial depending on stakeholder attitudes

- M&A integration
- Definition of a long-term change strategy enabling the management of a portfolio of change projects with a standardized approach

- Creating context for change—it is not only an HR topic but needs also to consider the particular situation of an organization at a certain point in time
- Understand and manage the interdependencies of culture and change: change and growth in organizations are dependent on change and growth in the cultures
- Overlapping tasks of different organization units can be eliminated deploying change consultants effectively
- Developing, implementing, and continuously monitoring of the metrics for change progress and success
- Developing change-related knowledge and ability on all levels, leadership is important because management roles change toward coaching and facilitating process and departs from controlling work
- Generating more bottom-up instead of top-down change—facilitating the empowerment and participation of change recipients
- Organizing of lessons learned and feedback loops in change and culture management to increase change competences of all organizational members
- Dispositional resistance and emotional responses and moods need also to be traced—on an individual, team, and organization level, because technical details are hard to explain, and the lack of knowledge may lead to emotionally rejecting any change.

Many executives in the company first learn about change and agility through existing internal digital transformation projects. In those projects that do not use agile change methods will probably have to fight to survive in the future. The high speed needed for providing a solution makes this model extremely attractive for top executives for implementation purposes. Digitalization, change, and agility go hand in hand. A wide variety of applications are conceivable and possible forms of agile teams and units can be implemented (Handscomb et al., 2019).

Once a change unit has been established responsible for building and sharing knowledge about change models and processes traditional teams can be staffed to work on the change agenda, such as facilitating workshops, creating leadership development training on change, or resolving conflicts. These project-based forms of organization with two speeds are widespread in organizations across industries. Experts come together to work on a project with a specific objective and when the work is finished, they separate again. When deployed repeatedly, these teams achieve a high degree of stability and flexibility. The core organization takes over the responsibility of a Project Management Office (PMO) to manage the change portfolio, secure funding, and perform governance functions. This hybrid form creates stability and flexibility at the same time and is especially suitable at the beginning of a change implementation. It can also be used to transfer project results into other areas, to find the necessary personnel, and to develop sufficient skills for change management projects and leadership tasks.

If an organization has developed a sufficient skill level and has the freedom needed to roll out their own change project, then self-organized change teams could make a great contribution. They can show a very high level of commitment, innovation and efficiency and associated with considerable flexibility and autonomy

in delivering results, use of planning methods, personnel deployment, and monitoring of project progress they are able to produce relevant change.

2.3   Utilizing Digital Technology to Enhance Change Processes

Digitalization efforts are a top item of any senior manager across all industries. Addressing the current megatrends such as globalization, demographic changes, the convergence of technology and the future of work will drive many organizations to undergo radical changes. Larger organizations have to rethink their change approaches to expedite the execution and completion of projects in all areas. A changing world will trigger changes in business, which will in turn change the way people will work—in new jobs in larger, diverse teams, from their home offices or from somewhere else. This context needs to be considered when initiating any change project. Agile approaches with agile methodologies have to be applied. In SW development this requirement is taken for granted and nobody would seriously question this process. Unfortunately, in change management an organization's use of digital technologies to facilitate change implementation is at the very beginning because a coherent fundament describing the use of tools in change is lacking or existing tool are used because they are just there. Fragmented solutions such as measuring the mood among employees (mood meter) or digital voting tools like mentimeter (Anonymous, 2022) or Microsoft Forms allowing for live polling or surveys cover only aspects but not the continuous progress and its changes of a project.

Kanitz and Gonzalez (2021) are among the first who discuss the support of change through digital tools from a holistic viewpoint. They coined the term technology-mediated change management (TMCM) to inform about how technologies are changing the nature of managing the change itself and how an organization's use of digital technologies can influence or engage change stakeholders during change implementations. Digital technology assists with data collection, processing, and decision-making. They present TMCM by discussing its impact on adaptiveness, personalization, and openness of the change process and how TMCM provides both valuable benefits and creates new risks in a change process.

In this context, adaptiveness refers to the enhanced ability of individuals employing TMCM to respond quickly to moving conditions during implementation, personalization enables the use of customized interventions to better suit recipients' attitudes and needs, and finally openness enables the stakeholders to raise their voices early and easy so that, for example, change-related information become and stay transparent and readily accessible. Among the most important benefits Kanitz and Gonzalez (2021) list are certainly the potential for fast adjustments that better align recipients' attitudes and needs and faster feedback loops among the stakeholders especially between those who are guiding and those who are enacting

change. Furthermore, it enables the customization of intervention for recipients in a sub-culture of an organization, for example, production vs. sales, who usually differ in terms of behaviors, attitudes, and needs. Finally, improved openness conditions enable a greater implementation quality because it is easier to involve and engage various stakeholders of the organization from all levels in the change process.

However, these benefits need to be balanced with the drawbacks and risks of such an approach. Regarding adaptiveness utilizing TMCM requires managerial analytical skills to effectively work with data based on socio-emotional competences to respond to visible criticism and negativity. For the affected organizational members, it is expected to create an overload of information and thus change fatigue. Mitigating activities therefore should be conceptualized from the outset. Personalization entails questions of how to observe data privacy and protection legislation and ethical standards as well as avoiding manipulating recipients. It may also undermine the existence of a shared identity, attitudes, and organizational culture. In terms of openness the potential risks encompass the creation of high expectations regarding the impact of stakeholder input. Also, it may decelerate and increase the complexity of the decision-making process since integrating employee feedback can be a challenge by itself. Finally, initiators and change leader have to take into account that the control over the change process may significantly be decreased. Kanitz and Gonzalez (2021, p. 455) believe, however, that

> ...future of managing change as a continuous process in which stakeholders enact change through technology-mediated collaboration. Yet, the making of this future requires theoretical and empirical insights to leverage the benefits and anticipate the risks that technology may bring. Such an approach may lead us to not outright reject risk-laden technologies, but rather, to re-imagine and re-design them so that they complement stakeholders during a change process.

This discussion is in line with Gibbon's (2019b) observation especially in the context of managing a portfolio of several change projects. Thus, both approaches can be coupled to create an extremely useful support process to guide and monitor several project at the same time until a successful completion and close of a project can be celebrated.

2.4 Change Communications

The final building block in implementing change processes is to plan and execute the communications process. One of the most important tasks at this stage is to formulate a sound change story, which explains the WHY—WHAT—HOW—WHEN of the intended change.

Prime objective of a change story is to provide a rational for the intended change.

- The necessity, sense, and usefulness of the change process become comprehensible for employees
- Upcoming challenges and consequences of change are well known

- Creating a common understanding of change and achieving a high level of commitment among employees and manager
- Clear positioning toward the goal of the change process

In some cases, this must be done on a very large scale if several areas or departments in a large organization are affected. The disadvantage of this is that many employees will have to be involved and many different views will have to be dealt with, but the advantage of broad-based coordination and community or consensus-building within stakeholder groups outweighs the disadvantages. If everyone can become involved in co-creation processes, the likelihood of generating a high level of commitment also increases. In the design process, however, care should be taken to ensure that the status quo is acknowledged, that values such as the meaning and benefits of the project are discussed, and that orientation is provided through contextual activation during the change process. Therefore, responding to the four questions by formulating a coherent change story is a vital task at the launch of any change initiatives.

So, the question "Why do we need to change?" refers to the situation in terms of the problem statement, the initial concern or the problem that has occurred and needs now to be addressed. It also identifies all relevant stakeholders which either initiated the change or are affected by the change, so that all individuals know that they are involved. Also, the scope of the project will be presented and the need or even the urgency to change now is explained.

"What do we need to change?" denotes the goal setting, that is, presenting a draft of the overall target images. Usually, general goals such as increasing efficiency are mentioned, but these goals will be detailed in future state workshops later on. More importantly the content of the change is specified in terms of what is changing referring to structures, processes, quality, or culture, all of them or a combination of single content items. The most important aspect is to develop a bottom-up perspective through gathering input from organizational members who will be affected by the change.

"How do we achieve the change goals?" describes the process of how the current situation needs to be shaped to reach the desired target state including an outline of the outcome, that is to delineate the consequences for those involved. These are challenging tasks since trust, authenticity, and openness must be combined especially if negative outcomes such as layoffs are to be expected. Each employee deserves an honest and fair treatment so that an open and genuine communication with feedbacks can take place.

This leads to the last part in regard to these questions that is how to get support and what contribution the individual could make to create a success for the organization. This goes hand in hand with the appropriate design of the change to become effective and appropriate. The selection criteria for the right approach based on culture imprint example can help to evaluate this question.

The last item in formulating a change story refers to the timeline of the change project. "When and for how long do we need to drive the change?" refers to the activities planned in the projected, when they are scheduled to be carried out and

when information about the plan and results produced are going to be shared. Developing and communicating clear metrics measuring the success is to be included.

Once a change story has been developed the process of communicating it has to follow. Before selecting the channels, a cohesive narrative has to be formulated. Language is a fundamental precondition to deal with ourselves, other individuals, and groups, appropriately and thus language, including grammar and vocabulary, influences our thinking. That means those people with a large vocabulary are better able to express in a differentiated manner facts and ideas to other humans and therefore be able to open larger field of action. They can avoid oversimplifications of complex contexts which is an important function for understanding the behavior and motives of oneself as well as key in regulating behavior.

Today, there are many different ways to tell stories that illuminate the future. Different formats from different genres can be used; for example, texts from science fiction, novels or even fables can be useful. Additionally, pictures and graphic novels can be integrated in the communication process. The goal of such tasks is to find a source of inspiration for creating a strategic narrative that shows the development of the organization and thus what its future holds. The purpose of using narratives or storytelling approaches in change management is therefore not only to make information about the process understandable to the people involved but also to reach them emotionally. A strategic narrative is characterized by the linking of information and emotions, as storytelling captures employees' attention long term and allows information to be firmly grasped by individuals (Kupiek, 2021). Effective stories can change beliefs and attitudes in the target group or motivate them to take certain actions. They assign meaning to facts, putting them into context, arouse human curiosity, entertain, and boost attention. Stories help a company position itself in a credible and unique way (ten Have et al., 2017; Lauer, 2014).

All this content can be transported through various channels. A challenging task since the range of available channels can be today sometimes overwhelming. Thus, looking ahead and considering the phases of the change process—from kick off to completion town hall meeting—the variety of the channels depends on the phases of the approach that has been selected (see above). During launch a positive emotional tone is appropriate to motivate employees and allow for emotional support of the change.

Schaff and Hojka (2018) as representatives of a classical communication approach evaluated these instruments as well suited for influencing emotions. They prefer a top-down approach, considering change as cascading activities from the highest hierarchical level to the individual workplace. Furthermore, they distinguish three levels of communication that influence actions: the informative level contains relevant information, the educational level gives the information meaning through explanations, and the emotional level is decisive for identification with the content and motivation.

One dimension of this approach is the impact-oriented change communication, targeted at the abilities, competencies, and motivation of an individual and attempts to support these aspects. Key aspect is preparing employees and managers for

upcoming changes and winning their positive support. The second dimension of change communication describes phase-oriented communication that corresponds to the different stages of a change project and changes over time. The most important goal of change communication is to address people's emotions, which ultimately have a significant influence on motivation, commitment, and willingness to perform tasks.

However, the design process raises questions. First, how to and by whom are the people identified who have a great influence on the change process, and second, which emotions influence motivation and willingness to perform tasks? Research (Kupiek, 2016) indicates that different emotions—positive as well as negative—can coexist over a long period of time and thus determining how enthusiasm and frustration can be simultaneously addressed in a message is a truly challenging task. Therefore, successful communication planning does not stop at the vertical hierarchical communication axis but also considers horizontal, informal, and usually emotional change communication. But many managers are skeptical about horizontal informal communication, because it is difficult to plan and almost impossible to control. This often leads to an ambiguous feeling among managers they are aware that this level of communication exists and is of great social importance but at the same time they attempt to control such communication through rigid measures which in turn may distort trust and credibility in the communication process.

These effects can be mitigated through a smart selection of channels which currently are available in abundance. From print to digital all can be used. Flyers, brochures, posters, cartoons, graphic novels as well as videos, podcasts, social media, and many more channels are available. Whatever preferences the organization members have and what seems to be appropriate and evaluated issue as impacting employees should be used.

3 Concluding Remarks

Organizations in any economy are being faced with a dramatically increased speed of changes in their external environment. Political crisis, pandemics such as COVID and their repercussions on global production, supply chains, and international trade require permanent adaption to new business conditions. Emerging and developing countries such as Georgia suffer even more from these unfavorable circumstance since they have to simultaneously build and maintain the fundaments of their economy, attract investors, and to adapt to changing conditions. The demands on companies and their managers continue to grow fueled by applying new leadership styles and technology that need to be understood and managed—possibly all at the same time to survive in this volatile, uncertain, complex, and ambiguous environment.

Consequently, it is beneficial to begin early on to consider appropriate strategies that enable owner, leaders, and shareholders of all enterprises to embrace change. This chapter informs about the currently available model of change, what their

relationship is to organizational culture so that a "right" approach can be selected. Agile organizations with widespread change leadership competencies will be well prepared for future challenges. The ability to formulate change strategies and to implement them requires that the entire organizations is aware of how change works. Technology-mediated change management may add to a fast and high-quality implementation even of major changes.

Change cannot be left to the human resource departments but must be part of the daily routine work of executives. Creating the position of a Chief Change Officer (CCO) is one idea to institutionalize change in an organization. This also permits the consistent communication of the created change story as a narrative for all organization members. Reflecting and addressing emotional perceptions of all employees can reveal very early on in the change process a non-rational attitude toward change and ideas to cope and deal with these attitudes. Once these ideas have been integrated in the most efficient communication channels including appropriate feedback loops they may add substantially to the successful implementation of change.

References

Anonymous. (2022). *mentimeter*. Retrieved June 18, 2022, from https://www.mentimeter.com/

Baas, M., De Dreu, C. K., & Nijstad, B. A. (2008). A meta-analysis of 25 years of mood-creativity research: Hedonic tone, activation, or regulatory focus? *Psychological Bulletin, 134*(6), 779–806.

Beer, M. (1980). *Organization change and development: A systems view*. Goodyear.

Bullock, R. J., & Batten, D. (1985). It's just a phase we're going through: a review and synthesis of OD phase analysis. *Group and Organization Studies, 10*(December), 383–412.

Cameron, E., & Green, M. (2009). *Making sense of change management* (2nd ed.). Kogan.

Cooperrider, D. L., & Srivastva, S. (1987). Appreciative inquiry in organizational life. In R. W. Woodman & W. A. Pasmore (Eds.), *Research in organizational change and development* (pp. 129–169). JAI.

Feldman, L. A. (1995). Valence focus and arousal focus: Individual differences in the structure of affective experience. *Journal of Personality and Social Psychology, 69*(1), 153–166.

Gibbons, P. (2019a). *The science of organizational change. How leaders set strategy, change behavior, and create an agile culture*. Phronesis Media Publishing.

Gibbons, P. (2019b). *Impact. 21st century change management, behavioral science, digital transformation and the future of work*. Phronesis Media Publishing.

Handscomb, C., Heyning, C., & Woxholth, J. (2019). *Giants can dance: Agile organizations in asset-heavy industries*. McKinsey & Company. Retrieved January 29, 2020, from https://www.mckinsey.com/industries/oil-and-gas/our-insights/giants-can-dance-agile-organizations-in-asset-heavy-industries

Hiatt, J. M. (2006). *ADKAR: A model for change in business, government and our community: How to implement successful change in our personal lives and professional careers*. Prosci Research.

Judson, A. S. (1991). *Changing behavior in organizations: Minimizing resistance to change*. Basil Blackwell.

Kanitz, R., & Gonzalez, K. (2021). Are we stuck in the predigital age? Embracing technology-mediated change management in organizational change research. *The Journal of Applied Behavioral Science, 57*(4), 447–458.

Kanter, R. M., Stein, B. A., & Jick, T. D. (1992). *The challenge of organizational change: How companies experience it and leaders guide it*. Free Press.

Kotter, J. P. (1996). *Leading change*. Harvard Business Press.

Kupiek, M. (2016). *Exploring the potential of neuroscience in change management*. Südwestdeutscher Verlag für Hochschulschriften.

Kupiek, M. (2021). *Digital leadership. Agile change and the emotional organization*. Springer.

Lauer, T. (2014). *Change Management: Grundlagen und Erfolgsfaktoren*. Springer.

Lewin, K. (1948). *Resolving social conflicts: Selected papers on group dynamics*. Harper.

Morgan, G. (1997). *Images of organization*. Sage.

Müller, U. R. (1997). *Machtwechsel im Management*. Haufe.

Oreg, S., Bartunek, J. M., Lee, G., & Do, B. (2018). An affect-based model of recipients' responses to organizational change events. *Academy of Management Review, 43*(1), 65–86.

Russell, J. A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology, 39*(6), 1161–1178.

Russell, J. A. (2003). Core affect and the psychological construction of emotion. *Psychological Review, 110*(1), 145–172.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68–78.

Sackmann, S. A. (2021). *Culture in organizations*. Springer Nature.

Schaff, A., & Hojka, Z. (2018, April 15). Emotionen als Erfolgsfaktor im Change Prozess. *Zeitschrift für Organisationsentwicklung, 2018*(02), 66–72. ZOE1267440.

Seo, M. G., Barrett, L. F., & Bartunek, J. M. (2004). The role of affective experience in work motivation. *Academy of Management Review, 29*(3), 423–439.

Stouten, J., Rousseau, D. M., & De Cremer, D. (2018). Successful organizational change: integrating the management practice and scholarly literatures. *Academy of Management Annals, 12*(2), 752–788.

ten Have, S., ten Have, W., Huijmans, A.-B., & Otto, M. (2017). *Reconsidering change*. Routledge.

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Recommendations for Leaders of Virtual Teams to Build Trust

Jonathan C. Schöppl and Peter F. -J. Steinhoff

1   Virtual Teams: Definition and Methodology

Due to novel communication and information technology, companies today are able to operate from different locations by eliminating the need for project managers or team members to act as a face-to-face team. This situation is made possible by the use of virtual teams. In particular, the increasing fight for the international market, globalization, outsourcing of services, and a higher return on investment by using existing technological infrastructure are reasons for working in virtual teams (Orlikowski, 2002). However, there is another reason for this development, which underlines the necessity of virtual teams. Due to the current coronavirus, also known as COVID-19, many companies are being forced to send employees to the home office and to make collaboration exclusively or largely virtual (Deutsche Fachpresse, 2020).

Because the work of employees in a virtual team involves considerable autonomy and the structure can be described as rather loose, the risk of opportunistic behavior on the part of employees exists (Gallenkamp et al., 2010; Clases et al., 2003). Furthermore, physical distance means, that the behavior of employees cannot be monitored, and emotions are no longer as easy to identify and can consequently be difficult to interpret (Landes et al., 2020). Leading this type of team is particularly challenging, as it sometimes extends across national borders, so the leader's technical knowledge must be available, and characteristics of virtual leadership must be followed (Fajen, 2018). Therefore, it is understandable that the use of virtual teams is not without problems and, consequently, a high percentage also fail (Rochus Mummert, 2013).

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For successful team development, however, building trust must be considered a particularly important component (Köppel, 2009). Trust also plays an important role in leadership at a distance (Boos et al., 2017). The danger of opportunism can be reduced by trust, among other things (Ripperger, 1998). The overall success of virtual teams and their effectiveness also relies on trust (Lencioni, 2014; Breuer et al., 2016).

Moreover, trust is important because it is difficult for the manager to exercise control in the virtual space. This observation can be justified by the fact that communication in the virtual space takes place via e-mail, telephone, or software programs. Thus, hardly any contextual knowledge is transmitted, which is particularly disruptive to the development of trust. Another consequence is the lack of a "we feeling" among members of the virtual team. The lack of trust also leads to poorer team performance and dissatisfaction (Köppel, 2009).

Because trust has high economic importance and is elementary to the success of a virtual team, the question arises: How can the manager successfully build trust in the virtual team in the current age? The aim of this paper is to investigate this question by examining the literature on building trust in virtual teams and exploring possible solutions for managers through qualitative interviews with experts.

A team can be understood as an organizational gathering of people with a common task who perform various activities. Thus, in addition to the work–organizational relationship, social relationships play a role in a successful team. Social relationships are considered a prerequisite for joint success (Herczeg et al., 2000). According to Köppel (2007), a team usually consists of three to fifteen individuals. This social network has a common task and goal, which would be nearly impossible to achieve by the individual (Köppel, 2007).

A virtual team is distinguished by three substantial characteristics (Konradt & Hertel, 2002): Characteristic one is that virtual teams and face-to-face teams have the same characteristics, including the fact that at least two individuals form a team to achieve common goals. Thus, the goals determine the methods, content, and nature of teamwork, including the division of labor, personnel and material resources, the use of work equipment, and deadlines. The second characteristic concerns spatial distribution. Virtual teams work at delocalized and decentralized workplaces. Thus, service is provided independently of location, and there is no longer a face-to-face meeting to exchange information with team members (Konradt & Hertel, 2002). The third characteristic is the use of modern information technology for communication. For example, e-mails, chats, or the Internet in general could be mentioned here (Konradt & Hertel, 2002).

Sulzbacher (2011) follows a similar approach and therefore divides virtuality into three dimensions: space, time, and structure (Sulzbacher, 2011). The dimension space describes the possibility of employing employees independent of geographical locations. Time refers to different time zones. Structure describes structures in the company, such as communication structures, which can be better bridged through virtuality (Sulzbacher, 2011).

2 Leadership and Trust: Definition and Concepts

2.1 Leadership

2.1.1 Definition of Leadership

According to one definition, leadership is an exertion of influence on people that is deliberate and goal-oriented (Rosenstiel, 2014). In another definition, leadership represents not only the influence of a leader on his or her employees but also a process of interaction that can be influenced by everyone involved. In this context, leadership is an interaction of at least two members of a group that often involves structuring or restructuring the situation and the perception, and expectation of it. Thus, leadership occurs when one group member alters the motivation or competence of other group members. In this process, each member may exhibit some degree of leadership (Bass, 1990).

Numerous general definitions of leadership have been presented. Notably, moreover, each age is characterized by specific forms of leadership. Leadership changes over time due to organizational and social aspects. Thus, the question is whether a new type of leadership is emerging in the context of virtual teams (Wald, 2013). Especially due to the coronavirus pandemic, which has led to the rapid virtualization of teams, digital leadership is becoming the focus of leadership (Schallmo, 2020). Thus, leadership can be described as virtual when the mutual influence between employees and managers is achieved mainly through new media (Kerschreiter, 2017).

2.1.2 Modern Approaches to Leadership

First, leadership at a distance is still little researched despite some empirical studies. However, in general, the main focus of leadership tasks is shifting toward building and maintaining functioning and trusting relationships between leaders and team members due to virtuality and digitization (Kerschreiter, 2017).

Boos et al. (2017) primarily recommend transformational leadership, decentralized leadership, and the substitution theory of leadership in the virtual context (Boos et al., 2017). The transformational leadership style attributes to the manager's task of setting goals for the employees and agreements with them in consultation with them. Goals should create a sense of purpose for the employee. Likewise, the coworker is supported and promoted accordingly so that they can act independently to fulfill tasks and goals (Bass & Avolio, 1993). In this context, the manager plays the role of a mentor or coach who perceives the employee's desire for growth and performance as well as his or her individual needs (Felfe, 2008). To implement this role successfully, five requirements for the behavior and communication of the manager are necessary: idealized influence, inspirational motivation, intellectual stimulation, individualized consideration, and charisma (Felfe, 2006).

Idealized influence involves putting personal interests behind the well-being and goals of the team. Through inspirational motivation, a leader should instill confidence and motivation in employees by using vision to clarify goals. Intellectual stimulation is intended to develop innovative thinking and let go of old ways of looking at things. An individualized approach focuses on the employee. Care is taken regarding the needs of employees by means of feedback and personal discussions (Felfe, 2006). Charisma refers to the ability of the manager to create trust based on his or her personality. It supports the employee's identification with the manager and the transmission of the manager's enthusiasm (Felfe, 2006; Boos et al., 2017).

Substitution theory maintains that replacing direct leadership with substitutes is more successful. This approach involves an attempt by the manager to achieve a more personal and direct influence through more efficient measures. Examples of such measures include setting rules for professional behavior, clearly structuring a task, or providing automated feedback on employee performance. This approach has the goal of encouraging employees to solve problems on their own and to develop competencies (Boos et al., 2017).

Regarding the research question, the positive effects of building trust in virtual teams according to substitution theory can be found in the literature, which could be achieved especially through structural measures instead of direct leadership. Leadership through target agreements should also be mentioned here. This leadership style is intended to create guardrails for employee behavior, which are characterized by their own initiative and self-direction, thus making the presence of the manager less important (Boos et al., 2017).

Another term to mention in the context of virtual team leadership is decentralized leadership (Fajen, 2018; Boos et al., 2017). Among other concepts, this term refers to distributed and shared leadership. Distributed leadership addresses the distribution of responsibility and leadership tasks among team members (Boos et al., 2017). In shared leadership, the leader is no longer the focus. Thus, the understanding of the roles of supervisors and employees is equal in terms of the goal to be achieved. This perspective is adopted to improve performance and motivation (Lippold, 2015).

Another modern approach is "digital leadership" (Gründerplattform, 2020). To be a successful digital leader, the following success factors are relevant: orientation toward people, communication skills, decision-making power, teamwork skills, networking, transparency, no hierarchical thinking, media skills, and trustworthy employee leadership (Schallmo, 2020).

In summary, the current literature highlights different ways to lead employees. Therefore, the different ways to lead also have an impact on building trust. To know how trust is built through leadership, an understanding of the topic of trust must first be established. Therefore, the following section explains the basics of trust in more detail.

2.2 Trust

Regarding trust, trust researcher Niklas Luhmann is often cited in the literature, whose work is also used as the basis for this article (Steinheuser & Zülch, 2004; Nuissl, 2002) and is described in more detail in the next section.

2.2.1 Luhmann's Concept of Trust

According to Luhmann (2014), trust is an important part of social life because without trust, most everyday things would be impossible for us. He defines trust as a risky leap of faith that, for example, a person makes (Luhmann, 2014). By granting this advance, trust can be defined as a mechanism for reducing complexity in a social sense. Since the relationship between managers and employees is very complex, trust can, for example, help to reduce complexity and lead teams more successfully.

In the following, the types of trust according to Luhmann are presented.

Personal Trust

The complexity of trust can be traced back to the individual's freedom of action. Trust is given when the counterpart is perceived as a personality. Trust can be described as a general expectation based on the possibilities of one's own actions in terms of one's own personality. That is, the counterpart is expected to act as the counterpart has acted thus far in the social context. The possibilities of action grow with increasing confidence in self-presentation and the interpretation of self-presentation by the counterpart. This growth also provides the basis for new behaviors in interaction, such as addressing difficult topics, jokes, rudeness, silence, and abbreviation of speech patterns, which can also promote trust (Luhmann, 2014).

However, trust cannot take place at the individual level alone. In the next section, system trust is presented as another type of trust according to Luhmann (2014).

System Trust

According to Luhmann (2014), system trust is not attached to an individual; rather, in a situation, there is trust that the system works. It is much easier to learn to have trust in systems than to place personal trust in ever-changing individuals. Examples of system trust are trust in institutions, in the monetary system, and in political systems (Luhmann, 2014). Trust in money is learned automatically because the person giving trust is dependent on money. Although the person giving trust cannot comprehend the system of money, he or she continues to trust because he or she does not feel able to change anything about it. Thus, acceptance of the money system contributes to a reduction in complexity (Luhmann, 2014).

Building Trust

The building of personal trust is made possible by framework conditions that must take place in a defined order. First, this process requires an occasion that requires trust. Then, the person giving trust must create a situation in which he or she is dependent on a second interaction partner. With regard to trust, the former must now make an advance effort that can be described as risky. However, the interaction partner must have the possibility to disappoint the expectation of the trusting party and does not trust based on self-interest. His or her behavior should then reflect appreciation of the trust bestowed and give lower priority to other self-interests. The development of personal trust can therefore be divided into different time periods (Luhmann, 2014).

System trust has already been introduced in the upper section of this thesis; the following can be stated with regard to the development of trust in systems: The framework condition is that other individuals also trust in corresponding systems (Luhmann, 2014). System trust is built primarily through experiences that are confirmed repeatedly. Since the person who gives trust does not understand this system and therefore sees themselves as dependent on the functioning of the system, this learning process happens automatically. Through resonance formed from recurrent use, the functioning of the system is confirmed by the trusting person (Luhmann, 2014).

3 Approaches to Building Trust

Trust is the basis of all social relationships. If it is sufficiently present, it is considered a success factor for economic effectiveness and efficiency. In the virtual context, building trust is particularly difficult (Steinheuser, 2006). However, trust is particularly important because work in virtual teams is more unpredictable and characterized by a low degree of certainty regarding expectations (Steinheuser & Zülch, 2004).

In this chapter, Köppel's (2009) leadership functions are used as a basis for building trust in virtual teams. Köppel (2009) distinguishes between the following functions of leadership behavior: process design, self-leadership, and team development (Köppel, 2009). These leadership functions are intended to increase the effectiveness of virtual teams and consequently, to promote trust building in virtual teams (Köppel, 2009). Notably, however, there is no one-size-fits-all formula that leaders can follow to build trust in virtual teams (Fladnitzer, 2006).

3.1 Process Design

The first approach to finding a solution is process design. The manager should ensure that processes in the virtual team are set up and defined in a comprehensible manner.

Supporting measures include setting goals, planning initiatives, kick-off events, rules for collaboration and regular exchanges (Köppel, 2009):

First, setting goals to achieve a team outcome is mentioned (Köppel, 2009). Here, trust is built primarily through the employee's identification with the company (Fladnitzer, 2006). Goals should be transparent so that the employee can understand them (Fladnitzer, 2006). If the agreed upon goals are achieved together, this achievement can be a positive experience that helps to build trust (Henttonen & Blomqvist, 2005). Other authors also emphasize that clearly defined, clearly communicated goals, which are thus understood by the employee, as a success factor for virtual teams (Maduka et al., 2018).

The planning initiative specifies that the manager only takes the initiative in making decisions and that the expertise remains with the employee (Köppel, 2009). To generate team commitment, however, coordination should always take place with the members (Köppel, 2009). This approach could be seen as a kind of leap of faith by the manager in the sense of personal trust according to Luhmann (2014) since the manager trusts the employees to make the right decisions.

Another instrument for building trust is a kick-off event. Such events are often neglected, although the need for clarifying goals, roles, and tasks is high, especially at the beginning of collaboration in virtual teams. Moreover, it offers the opportunity to establish personal contacts to be able to build trust. Therefore, kick-off events can contribute to effective collaboration in a virtual context (Köppel, 2009). The usefulness of a kick-off meeting has been confirmed by studies (Weinkauf & Woywode, 2004). Nydegger and Nydegger (2010) recommend starting newly formed virtual teams with a face-to-face meeting (Nydegger & Nydegger, 2010) and holding these meetings at least annually to build trust (Ford et al., 2017).

Rules of cooperation should also be agreed upon at the beginning. They represent another instrument of process design (Köppel, 2009). Employees should perceive a set of rules that is both understandable and reliable (Fladnitzer, 2006). This perception results in a transfer of institutional trust (Fladnitzer, 2006). Norms and expectations manifested through the rules must be aligned with the vision and purpose of the company (Benetyte & Jatuliavičienė, 2014).

Establishing formal rules can ensure that team activities and communicative exchanges are included in the team (Ford et al., 2017). It is up to the leader to ensure that established rules and plans are followed by individual members. If the rules are broken, it is the managers' task to determine the reasons and to take countermeasures (Köppel, 2009).

To prevent individual team members from feeling isolated or distanced, the leader must mentor them closely and constantly remind them of the team's shared vision. In this way, team members can develop a sense of belonging and communication at eye level with the leader. This approach also strengthens team identity (Maduka et al., 2018). Han and Harms (2010) can attest to a strong team identity having a positive influence on trust within the team (Han & Harms, 2010).

Regular exchange is an instrument of communication (Köppel, 2009). Therefore, this aspect captures the essential aspects of communication in the virtual team that have a trust-building effect. To implement these aspects successfully in the virtual team, especially as a manager, general appointment and communication standards

should be established (Benetyte & Jatuliavičienė, 2014; Shockley-Zalabak et al., 2010). Social communication (Betriebswirtschaft-Lernen, 2020) is especially important to build trust with team members. For example, a positive and praise-filled e-mail may well contribute to the quality of the social relationship (Greenberg et al., 2007; Germain, 2011). Likewise, allowing time for informal exchanges before meetings can build trust within the team (Boos et al., 2017; Konradt & Hertel, 2002). Jarvenpaa and Leidner (1999) also confirm in a study with 365 participants that social exchange among members at the start of a virtual team promotes trust building (Jarvenpaa & Leidner, 1999). With regard to building trust between the manager and the employee in a virtual team, Gallenkamp et al. (2010) state that trust building is positively impacted if team members can talk to each other about a variety of both professional and personal topics (Gallenkamp et al., 2010).

Managers must ensure that communication is frequent, open and as extensive as possible given the situation (Nydegger & Nydegger, 2010). It is questionable which communication medium is best for facilitating this exchange in a virtual team. In the virtual context, synchronous methods of communication, such as video conferencing and chat and messenger services, are particularly suitable for building trust in the early stages of collaboration (Chutnik & Grzesik, 2009).

In a study, Kauffmann and Carmi (2014) examined the effectiveness of various media in terms of their usefulness for building trust and distinguished between cognitive and affective trust (Kauffmann & Carmi, 2014). They find that cognitive trust factors are more task-based and therefore should be communicated mostly via asynchronous media such as e-mail. However, misunderstandings can occur regarding the task, so the manager should additionally use audio or video conferencing to prevent them. Since affective trust mainly concerns social communication, it is advisable to choose a form of communication that is most similar to face-to-face meetings. For both cognitive and affective trust, the study finds that the video conferencing medium is best suited when the leader's goal is to build a high level of trust within the team (Kauffmann & Carmi, 2014). Maruping and Agarwal (2004) support this finding, noting that in the early stages of trust building, technology based on visual and voice transmission is best (Maruping & Agarwal, 2004).

Kauffmann and Carmi (2014) state that regular social exchange is a central basis for building trust and should therefore take place as often as possible. The choice of communication medium is also decisive for how effectively trust can be built in the virtual team. Since trust is based on social interaction, a synchronous form of communication technology that favors social exchange should be selected wherever possible. Only for coordination or the sharing progress and knowledge could asynchronous media be more appropriate depending on the situation (Kauffmann & Carmi, 2014).

3.2   Self-Leadership

In addition to process design, the self-leadership of employees is also relevant for building trust. To provide the skills required for this purpose and thus promote trust, the manager can use the following instruments (Köppel, 2009).

The first instrument is responsibility and the assumption of responsibility. The manager must ensure that after assigning responsibilities and tasks, these are understood by the employees (Köppel, 2009). Since the employee can initially lack the skills or experience to work independently as part of a virtual team, tasks and responsibilities should be tailored to the employee and then continuously increased. It is also advisable for the manager to coach the employee and, if necessary, provide support in the form of training (Köppel, 2009).

Regarding confidence building, Shockley-Zalabak et al. (2010) also recommend that development and learning should be continuously supported (Shockley-Zalabak et al., 2010). Watkins (2013) additionally highlights the role of the manager as a coach in this context (Watkins, 2013). Chutnik and Grzesik (2009) recommend that the leader create an atmosphere of learning during the team building process, as continuous learning teams produce exceptional results (Chutnik & Grzesik).

Regarding media, language, and intercultural competencies of employees, these competencies should be present in team members. For example, team members must be trained in the use of group communication media as well as application-specific software (Greenberg et al., 2007). If these competencies are not possessed, they must be fostered through training. Such training can be conducted virtually as group training. This approach has the advantage of positively influencing team building (Köppel, 2009). Managers can also observe how various communication technologies are used by team members and offer training or coaching for those who underutilize them (Malholtra et al., 2007).

Incentive systems are another confidence-building measure available to the manager. They can take the form of a tangible bonus and/or a fixed salary or an intangible incentive such as career opportunities (Köppel, 2009). Incentive systems can also have a motivating effect under certain conditions. For example, employees should always be able to understand the connection between their behavior, their performance, and their pay. They can also motivate employees to develop skills or knowledge. If there is a similar reward structure in the company for similar activities, this similarity can have a positive effect on cooperation (Lawler, 2003). Thus, incentive systems represent a possibility to establish system trust according to Luhmann (2014). Thus, it was found that system trust is formed through recurring experiences that are confirmed (see pp. 6–7) (Luhmann, 2014). A transparent and perceived fair reward system could therefore also be used as a suitable measure by the manager to build trust among employees on the virtual team.

3.3   Team Development

Team development is another leadership function. It promotes both trust building and team cohesion. Informal and personal instruments form the basis for team cohesion. The measures already mentioned, such as kick-off and training events, recurring exchanges, and reward systems, can also be integrated as instruments of team development (Köppel, 2009).

First, social events should be mentioned, which the team leader should use to facilitate personal exchange. Such events could be joint outdoor events and dinners (Köppel, 2009). Social events can also contribute significantly to building trust in the virtual space (Greenberg et al., 2007). The manager should therefore find ways to hold face-to-face meetings in the virtual space (Kauffmann & Carmi, 2014). However, work topics should not be addressed in such formats (Kauffmann & Carmi, 2014). Issuing certificates for particularly outstanding achievements in virtual meetings is also helpful for building trust (Greenberg et al., 2007). Thus, other authors regard this type of social event as a useful tool for leaders in the virtual space (Malholtra et al., 2007; Ford et al., 2017).

Encouraging informal exchanges among virtual team members has a positive impact on trust (Geister et al., 2006). For example, small talk could be considered another tool by managers, who could schedule time for an exchange of personal information to take place (Köppel, 2009). In a study with managers and team members of virtual teams, Hambley et al. (2007) found that managers should encourage nonwork-related exchanges among team members, for example, to make exchanges in conference calls more effective (Hambley et al., 2007). Connaughton and Daly (2004) also note that managers encourage small talk to build relationships in the virtual space (Connaughton & Daly, 2004).

Business trips are also a team development tool. Thus, they present a good opportunity for managers to talk to employees in person or even participate in meetings (Köppel, 2009). Ford et al. (2017) also recommend that managers schedule a face-to-face meeting with all team members at least once a year (Ford et al., 2017). However, even for members of virtual teams, a business trip can be worthwhile for building trust. It gives them the opportunity to establish social contact with other members of the team (Köppel, 2009). This statement is supported by the finding that face-to-face meetings facilitate and accelerate trust building even in virtual teams (Hambley et al., 2007). Other interviewees also state that face-to-face meetings play an important role in building trust in virtual teams (Henttonen & Blomqvist, 2005).

Another team development and trust-building tool is an arrangement where two team members from different locations work on a joint project. In this way, the manager can use an initially small project to ensure that the relationships between members of the virtual team improve and that the team members get to know each other better in the virtual context. The result could be a generally better way of addressing larger tasks in the virtual team and could thus also promote trust (Köppel, 2009).

3.4 Further Measures for Building Trust

Now that some measures have been presented that a manager can use to build trust in virtual teams, other relevant measures are listed below that are not specifically mentioned in Köppel's (2009) framework introduced earlier. These include the

selection of an appropriate leadership style, the development of competencies by the manager, and the composition of the team members.

3.4.1   Selection of Leadership Style and Development of Competencies

Due to the increasing relevance of digital work, the manager must use appropriate leadership styles for this particular form of work (Gerdenitsch & Korunka, 2018). Therefore, both transformational and shared leadership are now examined regarding their effect on trust.

Transformational leadership is characterized by the fact that the leader pays special attention to employee development and responds to his or her individual needs (Felfe, 2008). The manager is not only a leader but also a coach and mentor for the employee (Felfe, 2008). Schlechter & Strauss (2008) examine the influence of transformational leadership on the trust of both employees and managers. They find a positive influence of leadership style on trust. In this context, leaders who lead transformationally are particularly trustworthy (Schlechter & Strauss, 2008). Other studies also confirm this result (Dirks & Ferrin, 2002; Pillai et al., 1999; Schlechter & Strauss, 2008). There is particularly strong evidence for the effectiveness of transformational leadership in the virtual context (Chou et al., 2013; Hoxha, 2015; Vought, 2017). This leadership style positively influences team performance by creating value congruence and trust (Chou et al., 2013; Vought, 2017). In summary, transformational leadership style can be an appropriate measure for the leader to build trust in the virtual team.

Another leadership style that is relevant for building trust is shared leadership. Here, it is not mandatory that an official leader is appointed. Rather, the leadership role is performed collectively within the team. This approach is important for geographically distributed teams in that, in addition to the question of who leads, how that person leads is important (Boos et al., 2017).

However, if the leader, like any other team member, classifies himself or herself as a supportive team member by participating in shared leadership, this decision may increase his or her trust among team members (Hoegl & Muethel, 2016). Therefore, shared leadership could also be used by the manager as a measure to build trust in the virtual team, provided that this type of leadership is also desired by the company.

3.4.2   Team Structure

Another factor in successfully building trust is the composition of the virtual team (Ford et al., 2017). In this context, the selection of team members can fall under the manager's responsibility (Malholtra et al., 2007). To work effectively together in a virtual team, selected team members should have a predisposition to trust each other (Clark et al., 2010). Although the predisposition to trust does not guarantee that a member will develop trust, it still influences a member's trust assessment of other team members (Greenberg et al., 2007).

Since employees are usually selected based on their technical expertise, it is helpful to explain to other team members why each employee was selected. Their skills can be more easily evaluated positively by team members in this way. The more competently that team members can be assessed, the higher the probability that trust can be built (Greenberg et al., 2007).

Especially when the primary means of communication is computer-mediated, there must be a lasting and strong foundation of trust. To build a successful foundation, various strategies are helpful. Team members should be selected according to not only their knowledge and skills regarding their responsibilities on the team but also their personality and predisposition to trust. Previous performance in virtual teams and the ability to work together with others should also be considered. In addition, care should be taken to ensure that team members are self-reliant and are appropriately included in the team (Ford et al., 2017). Another significant factor in terms of building trust is team size. The smaller the team is, the greater the likelihood is that individual team members will trust each other (Berthold, 2015).

4   Research Method and Survey Results

4.1   Research Method

After the current status of research in the literature on building trust in virtual teams and possible solutions has been presented, the next step is to examine these possible solutions through qualitative interviews with experts.

Experts were interviewed on the following four topics:

– General
– Virtual teams
– Trust
– Leadership

The topics were chosen to obtain as much information as possible based on the experts' everyday work. The interviews aimed to generate or verify new insights or confirmation of the current state of knowledge on how a leader can successfully build trust in a virtual team.

Two different questionnaires were developed for this purpose, one for managers and one for employees. They differ regarding the experts' professional position to consider the perspectives of the manager and the employee with regard to building trust. While the general questions and those relating to the virtual team are formulated identically, the guides for managers and employees differ for the topics of trust and leadership. Regarding employees, it should be borne in mind that they may have no leadership experience and may not be aware of any specific method or strategy but may tend to act intuitively. Therefore, questions regarding the topics of virtual teams, leadership, and trust are chosen such that employees' personal experiences and important aspects in engaging with the virtual team can be captured.

In contrast, questions for the leader focus on methods and strategies for building trust and leadership. In the topics of the second part of the guide, questions are also included that highlight what, for example, trust and leadership mean to the respondent. Their importance to the individual is also asked. These questions are asked of both the leader and the employee to compare results.

4.2   Results of the Survey

Trust is an important part of leading virtual teams and also represents a major challenge. As the COVID-19 pandemic supports the digital trend toward virtual collaboration, this paper aims to provide action recommendations for leaders of virtual teams to build trust. In the first step, a theoretical overview of the areas of virtual teams, leadership, and trust is given, and approaches to building trust in virtual teams are examined based on a literature review. Finally, these approaches are examined for practicality and feasibility through a qualitative analysis by using expert interviews.

In conclusion, in addition to many advantages of virtual collaboration, including the selection of employees, which can be performed without taking geographical restrictions into account, there are also numerous challenges. Given the more difficult and time-consuming establishment of trust compared to face-to-face teams, there are issues of technical requirements, social distance, and communication. In this context, the concept of trust can initially be described as a problem of risky advance performance, which gains even more relevance in the virtual context. Reliability, honesty, openness, and open communication are particularly characteristic of the importance of trust in this context. These aspects should be given particular attention by the manager and promoted on his or her team. To successfully lead an effective virtual team, it is therefore a central task of the manager to build trust. There are different types of trust, such as personal trust, system trust, cognitive trust, and affective trust, which the manager can influence on his or her team (see p. 6 ff.). To support this effort, the leader can be guided by solution approaches that correspond to Köppel's (2009) leadership functions: process design, self-leadership, and team development.

In general, the manager can positively influence trust on his or her team by means of suitable virtual leadership. In this context, the interviewees perceived the term virtual leadership as multifaceted. In principle, the transformational leadership style is more suitable for building trust, as it focuses on the employee and encourages him or her, and the manager acts as a mentor or coach. Classic leadership styles, such as the hierarchical leadership style, are less suitable due to the lack of control in the virtual space and the risk of isolating individual employees.

As in conventional physical teams, the manager needs specialist and methodological leadership skills to implement virtual leadership. Above all, it is advisable for managers to have strong social and communication skills, which can be enhanced through training if necessary. By communicating clearly and openly, they can avoid

misunderstandings that can have a negative impact on building trust. By establishing regular feedback meetings, managers can check employees' level of trust and adjust it if necessary. In this process, the manager should be authentic, empathetic, and self-reflective and have integrity. The manager's ability to motivate his or her employees also plays an important role.

In general, but especially for managers who involuntarily lead a virtual team because of the coronavirus pandemic, media competence is particularly crucial for building trust. A manager should select the right media for the occasion to contact the employee and thus promote a joint exchange with the team. A combination of synchronous and asynchronous media, such as chat messaging, camera-based communication, and e-mail, seems particularly effective. Chat functions enable fast communication, but experts note that emotions are not easily conveyed. The use of emojis could, to a certain extent, bring a more personal touch to communication and thus take advantage of the rapid exchange of information (Aretz, 2018). Regular and informal exchanges in particular play an essential role in building trust, which is why managers should particularly encourage them.

By holding regular one-to-one meetings with individual employees as well as meetings with the entire team, both virtually and in person, the manager can create a framework that enables social exchange in both formal and informal ways, thus reducing social distance. It is also advisable to communicate the mutual expectations of the team and of individual employees. Here, it is worth mentioning that the managers interviewed expected that employees on the virtual team have a willingness to exchange and participate. Platforms that represent a combination of synchronous and asynchronous media (e.g., Microsoft Teams) are particularly suitable as a medium for communication. The lack of facial expressions and gestures in a face-to-face conversation can be counteracted by the consistent use of good quality cameras and the promotion of open communication. In doing so, the manager can positively influence the building of trust by proactively refraining from obscuring the background with virtual backgrounds, thus providing an opportunity to identify commonalities in furnishings or hobbies. This approach could make it easier to find topics for informal exchange that make the employee feel that they are being catered to. In this context, however, it is important that the manager listens attentively so that he or she can also act as a contact person.

Since it is challenging to rate personalities in the virtual context due to a lack of physical contact, the manager can plan camera-based social events (e.g., kick-offs) at the beginning but also in a later stage of virtual collaboration to build trust with and among employees through repeated informal exchanges. Joint dinners, coffee breaks, or online games are recommended. Celebrating successes together is also possible in this way. When the pandemic is not an issue, physical meetings should still be made possible. All these measures could lead to a "we feeling," which particularly promotes trust.

Apart from the instruments already mentioned and the lack of control, the manager should give his or her employees a confidence advance. In addition, the manager should make a suitable selection of employees, since the employees must also have appropriate competencies for building trust.

By means of a theoretical and empirical study, this paper highlights suitable approaches for managers to help build trust in the virtual team. The experts generally confirmed the theory of building trust and in some cases, uncovered helpful approaches, such as dispensing with virtual backgrounds. In principle, aspects were mentioned that also support building trust in face-to-face teams. However, social and media competence take on a particularly relevant role in virtual leadership. Notably, people are at the center of this type of leadership, and therefore, there is no "one right way."

In the context of this work, aspects such as corporate culture and the intercultural component represent areas of research that should be considered in the future to successfully build trust in multicultural, virtual teams. The future will also show how technological progress offers further possibilities for communication and thus for building trust in virtual teams.

References

Aretz, W. (2018). Ein Bild sagt mehr als tausend Worte: Die Nutzung und Wirkung von Emojis in der privaten Kommunikation unter Berücksichtigung von Geschlechts-unterschieden. *Journal of Business and Media Psychology, 9*(1), 1–13.

Bass, B. M. (1990). *Bass and Stogdill's handbook of leadership: Theory, research and managerial applications* (3rd ed.). Free Press.

Bass, B. M., & Avolio, B. J. (1993). Transformational leadership and organizational culture. *Public Administration Quarterly., 17*(1), 112–121.

Benetyte, D., & Jatuliavičienė, G. (2014). Building and sustaining trust in virtual teams within organizational context. *Regional Formation and Development Studies, 2*(10), 18–30.

Berthold, J. (2015). Stimulating team creativity: The influence of swift-trust on the team creativity process. *Journal of Sustainability Management, 3*(1), 19–28.

Betriebswirtschaft-Lernen. (2020). *Soziale Kommunikation*. Retrieved February 01, 2021, from https://www.betriebswirtschaft-lernen.net/erklaerung/soziale-kommunikation/

Boos, M., Hardwig, T., & Riethmüller, M. (2017). *Führung in verteilten Teams* (1st ed.). Hofgrefe Verlag.

Breuer, C., Hüffmeier, J., & Hertel, G. (2016). Does trust matter more in virtual teams? A meta-analysis of trust and team effectiveness considering virtuality and documentation as moderators. *Journal of Applied Psychology, 101*(8), 1151–1177.

Chou, H. W., Lin, Y. H., Chang, H. H., & Chuang, W. W. (2013). Transformational leadership and team performance: The mediating roles of cognitive trust and collective efficacy. *Sage Open, 3*(3), 1–10.

Chutnik, M., & Grzesik, K. (2009). Leading a virtual intercultural team. Implications for virtual team leaders. *Journal of Intercultural Management, 1*(1), 82–90.

Clark, W. R., Clark, L. A., & Crossley, K. (2010). Developing multidimensional trust without touch in virtual teams. *The Marketing Management Journal, 20*(1), 177–193.

Clases, C., Bachmann, R., & Wehner, T. (2003). Studying trust in virtual organizations. *International Studies of Management & Organization, 33*(3), 7–27.

Connaughton, S. L., & Daly, J. A. (2004). Long distance leadership: Communicative strategies for leading virtual teams. In D. J. Pauleen (Ed.), *Virtual teams. Projects, protocols and processes* (1st ed., pp. 116–145). Idea Group Publishing.

Deutsche Fachpresse. (2020). *Alles anders*. Retrieved September 10, 2020, from https://www.deutsche-fachpresse.de/fileadmin/fachpresse/upload/bilder-download/publikation/Spezial-Virtuelle_Zusammenarbeit_Fachpresse__ChangeCircle_HandelsblattFachmedien.pdf

Dirks, K. T., & Ferrin, D. L. (2002). Trust in leadership: Meta-analytic findings and implications for research and practice. *Journal of Applied Psychology, 87*(4), 611–628.

Fajen, A. (2018). *Erfolgreiche Führung multikultureller virtueller Teams. Wie Führungskräfte neuartige Herausforderungen meistern* (1st ed.). Springer Gabler Verlag.

Felfe, J. (2006). Tranformationale und charismatische Führung - Stand der Forschung und aktuelle Entwicklungen. *Zeitschrift für Personalpsychologie, 5*, 163–176.

Felfe, J. (2008). *Mitarbeiterbindung* (1st ed.). Hofgrefe Verlag.

Fladnitzer, M. (2006). *Vertrauen als Erfolgsfaktor virtueller Unternehmungen* (1st ed.). Deutscher Universitätsverlag.

Ford, R. C., Piccolo, R. F., & Ford, L. R. (2017). Strategies for building effective virtual teams: Trust is key. *Business Horizons, 60*(1), 25–34.

Gallenkamp, J., Picot, A., Welpe, I., & Drescher, M. (2010). Die Dynamik von Führung, Vertrauen und Konflikt in virtuellen Teams. *Gruppendynamik und Orga-nisationsberatung, 41*(4), 289–303.

Geister, S., Konradt, U., & Hertel, G. (2006). Effects of process feedback on motivation, satisfaction and performance in virtual teams. *Small Group Research, 37*(5), 459–489.

Gerdenitsch, C., & Korunka, C. (2018). Empfehlungen für die gestaltung von digitalen Arbeitswelten. In F. C. Brodbeck, E. Kirchler, & R. Wochee (Eds.), *Digitale Transformation der Arbeitswelt. Psychologische Erkenntnisse zur gestaltung von aktuellen und zukünftigen Arbeitswelten* (1st ed., pp. 165–182). Springer Verlag.

Germain, M. (2011). Developing trust in virtual teams. *Performance Improvement Quarterly, 24*(3), 29–54.

Greenberg, S. P., Greenberg, R. H., & Antonucci, Y. L. (2007). Creating and sustaining trust in virtual teams. *Business Horizons, 50*(4), 325–333.

Gründerplattform. (2020). *Digital leadership*. Retrieved December 01, 2020, from https://gruenderplattform.de/unternehmensfuehrung/digital-leadership

Hambley, L. A., O'Neill, T. A., & Kline, T. J. B. (2007). Virtual team leadership: Perspectives from the field. *International Journal of e-Collaboration, 3*(1), 40–64.

Han, G. H., & Harms, P. D. (2010). Team identification, trust and conflict: A mediation model. *International Journal of Conflict Management, 21*(1), 20–43.

Henttonen, K., & Blomqvist, K. (2005). Managing distance in a global virtual team: The evolution of trust through technology-mediated relational communication. *Strategic Change, 14*, 107–119.

Herczeg, M., Janfeld, B., Kleinen, B., Kritzenberger, H., Paul, H., & Wittstock, M. (2000). *Virtuelle Teams: Erkenntnisse über die Nutzung von Video Conferencing und Application Sharing bei der Unterstützung virtueller Teams. Graue Reihe des Instituts Arbeit und Technik, No. 2000-07*. Institut für Arbeit und Technik.

Hoegl, M., & Muethel, M. (2016). Enabling shared leadership in virtual project teams: A practitioners guide. *Project Management Journal, 47*(1), 7–12.

Hoxha, A. (2015). Empowerment and trust as mediators of the relationship between transformational leadership and organization effectiveness. *European Journal Economic and Political Studies, 8*, 43–60.

Jarvenpaa, S. L., & Leidner, D. E. (1999). Communication and trust in global virtual teams. *Organization Science, 10*, 791–815.

Kauffmann, D., & Carmi, G. (2014). How team leaders can use ICT to improve trust among virtual teams to increase collaboration? *International Journal of Engineering and Innovative Technology, 3*(9), 204–220.

Kerschreiter, R. (2017). E Leadership und Führung auf Distanz - Erfolgreiche Führung in digitalen und virtuellen Arbeitswelten. In K. Häring & S. Litzcke (Eds.), *Führ-ungskompetenzen lernen: Eignung, Entwicklung, Aufstieg* (2nd ed., pp. 45–58). Schaeffer-Poeschel Verlag.

Konradt, U., & Hertel, G. (2002). *Management virtueller Teams. Von der Telearbeit zum virtuellen Unternehmen* (1st ed.). Beltz Verlag.

Köppel, P. (2007). Kulturelle Diversität in virtuellen Teams. In D. Wagner & B. F. Voigt (Eds.), *Diversity Management als Leitbild von Personalpolitik* (1st ed., pp. 273–292). Deutscher Universitätsverlag.

Köppel, P. (2009). Virtuelle Teams: Die Rolle der Führung. In C. I. Barmeyer & J. Bolton (Eds.), *Interkulturelle Personal und Organisationsverwaltung* (1st ed., pp. 145–166). Verlag Wissenschaft & Praxis.

Landes, M., Steiner, E., Wittmann, R., & Utz, T. (2020). *Führung von Mitarbeitenden im Homeoffice. Umgang mit dem Heimarbeitsplatz aus psychologischer und ökonomischer Perspektive* (1st ed.). Springer Gabler Verlag.

Lawler, E. (2003). Pay systems for virtual teams. In C. B. Gibson & S. C. Cohen (Eds.), *Virtual teams that work creating conditions for virtual team effectiveness* (1st ed., pp. 121–144). Jossey-Bass.

Lencioni, P. M. (2014). *Die 5 Dysfunktionen eines Teams* (1st ed.). Wiley-VCH Verlag.

Lippold, D. (2015). *Theoretische Ansätze der Personalwirtschaft: Ein Überblick* (2nd ed.). Springer Verlag.

Luhmann, N. (2014). *Vertrauen* (5th ed.). UTB GmbH.

Maduka, N., Edwards, H., Greenwood, D., Osborne, A., & Babatunde, S. (2018). Analysis of competencies for effective virtual team leadership in building successful organisations. *Benchmarking, 25*(2), 696–712.

Malholtra, A., Majchrzak, A., & Rosen, B. (2007). Leading virtual teams. *Academy of Management Perspectives, 21*(1), 60–70.

Maruping, L. M., & Agarwal, R. (2004). Managing team interpersonal processes through technology: A task-technology fit perspective. *Journal of Applied Psychology, 89*(6), 975–990.

Nuissl, H. (2002). Bausteine des Vertrauens. *Berliner Journal für Soziologie, 12*(1), 87–108.

Nydegger, R., & Nydegger, L. (2010). Challenges in managing virtual teams. *Journal of Business & Economics Research, 8*(3), 69–82.

Orlikowski, B. (2002). *Management virtueller Teams: der Einfluss der Führung auf den Erfolg* (1st ed.). Deutscher Universitäts Verlag.

Pillai, R., Schriesheim, C. A., & Williams, E. A. (1999). Fairness perceptions and trust as mediators for transformational and transactional leadership: A two-sample study. *Journal of Management, 25*(6), 897–933.

Ripperger, T. (1998). *Ökonomik des Vertrauens: Analyse eines Organisationsprinzips* (1st ed.). Mohr Siebeck Verlag.

Rochus Mummert. (2013). *Warum drei von vier virtuellen Teams scheitern*. Retrieved February 25, 2021, from https://www.rochusmummert.com/wp-content/uploads/2020/06/EW_Virtuelle_Teams_FD.pdf

Rosenstiel, L. (2014). Grundlagen von Führung. In L. v. Rosenstiel, E. Regnet, & M. Domsch (Eds.), *Führung von Mitarbeitern* (7th ed., pp. 3–29). Schaeffer-Poeschel Verlag.

Schallmo, D. (2020). *Was Digital Leadership ausmacht*. Retrieved February 01, 2021, from https://www.springerprofessional.de/digital-leadership/transformation/was-einen-echten-digital-leader-ausmacht/17649142

Schlechter, A. F., & Strauss, J. J. (2008). Leader emotional intelligence, transformational leadership, trust and team commitment: Testing a model within a team context. *SA Journal of Industrial Psychology, 34*(1), 42–53.

Shockley-Zalabak, P. S., Morreale, S., & Hackman, M. (2010). *Building the high-trust organization: Strategies for supporting five key dimensions of trust*. Jossey-Bass.

Steinheuser, S. (2006). Vertrauen-Erfolgsgarant virtueller Kooperationen. In J. Zülch, L. Barrantes, & S. Steinheuser (Eds.), *Unternehmensführung in dynamischen Netzwerken* (1st ed., pp. 77–93). Springer Verlag.

Steinheuser, S., & Zülch, J. (2004). Kann personales Vertrauen virtuell produziert und reproduziert werden? In M. Engelien & K. Meißner (Eds.), *Virtuelle Organisation und Neue Medien* (pp. 361–372). Josef EUL Verlag.

Sulzbacher, M. (2011). *Virtuelle Teams* (1st ed.). Tectum Verlag.

Vought, W. X. (2017). E-leadership in practice: The components of transformational leadership in virtual business environments. In *Education Doctoral Paper 323* (pp. 1–142).

Wald, P. M. (2013). Virtuelle Führung. In R. Lang, I. Rybnikova, & P. M. Wald (Eds.), *Aktuelle Führungstheorien und - konzepte* (1st ed., pp. 355–386). Springer Gabler Verlag.

Watkins, M. (2013). Making virtual teams work: Ten basic principles. *Harvard Business Review*, 1–5.

Weinkauf, K., & Woywode, M. (2004). Erfolgsfaktoren von virtuellen Teams - Ergebnisse einer aktuellen Studie. *zfb, 56*(1), 393–412.

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Remote Work: The Great Equalizer of the Twenty-First Century? Stress and Employee Motivation in High- and Low-Cost Countries: Exemplary Analysis for Germany, Bulgaria, and Georgia

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1 Home Office and Remote Work

Even though the concept of home office as we know it today has been known since the mid-1980s when the American companies such as J. C. Penney allowed their call centre employees to work from home, the topic of remote work came to prominence in 2020 when the world was faced with the developing pandemic (Smith, 2019). Even when in many countries most restrictions were lifted, many companies which operated successfully after moving to the remote system decided not to go back to the office, relying fully on home office or hybrid working system. It was widely published at the end of April 2022 that Airbnb, the company operating an online marketplace for lodgings with workforce of over 6000 people worldwide, announced a new working system designed to let all employees to 'to live and work anywhere—while collaborating in a highly coordinated way'. Airbnb decided to let their teams work from the office or anywhere else in the country they work in, as well as spend up to 90 days working from anywhere else in the world (Airbnb, 2022).

It is obvious that not all companies and professions can benefit from the home office system equally. Numerous factors need to be taken into consideration when

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assessing the viability of remote work, such as the nature of business, the techno-logical possibilities, and the extent to which a particular company relies on internal relations. The reported impact of this work style adjustment is overall positive (especially among the highly educated and well-paid minority) with the benefits quoted by the 'New York Times' in response to their survey, such as 'sunlight, sweatpants, quality time with kids, quality time with cats, more hours to read and run, space to hide the angst of a crummy day or year' (Goldberg, 2022). For employees who do not rely on teamwork and colleagues' input, going into the home office mode led to higher productivity and job satisfaction and was named as one of the most valued work benefits. And even though the transition into remote working might have looked smooth for many businesses, the long-term impact on team spirit, feel for the company culture, and creativity is predicted to be negative (Goldberg, 2022).

Some detailed reports on the topic have already been released by the major consulting companies and journals. In September 2021, Nature Human Behavior (Yang et al., 2022) published the results of research conducted among over 60,000 US Microsoft employees. The general conclusions from the research state that in the long run, remote work has a negative effect on creativity and innovation—and therefore also productivity. When working in isolation and focusing on individual or team tasks without any visible necessity for input from other units, the cross-departmental communication diminishes significantly. With no access to or over-view of information relevant to other departments' work, the sources of innovation become very limited (Ngyuen, 2021). Another important point to be taken into consideration when moving the teams into a home office system is the impact it might have on the employee engagement, their feeling of belonging, and opportu-nities for learning and development (not only virtual trainings but also learning 'on the job' from other colleagues). A survey done by PwC among the US employees (133 executives and 1200 office workers) after 9 months of remote work showed that least experienced workers (0–5 years) need the office the most and are more likely to feel less productive when working remotely (PWC, 2022).

Since widespread remote work reality started over 2 years ago, many managers have been faced with the challenge of maintaining (or increasing) productivity together with ensuring team engagement and company culture. As research shows, the most successful model for the future workplace will be a hybrid, that is, a mix between home and office that will allow for much desired flexibility. But as a Gallup analysis states, 'hybrid work will be more challenging for managers than their old ways of working. Flexibility for workers makes coordination difficult. Remote workers can feel neglected. Technology requirements must change. Hybrid work raises questions of trust, accountability and measuring productivity—even equity and access to hybrid opportunities' (Wigert, 2022).

2   Employee Survey at iGaming.com Group GmbH

To assess and compare employee motivation and stress levels, data of an employee survey executed in summer 2021 among 300 employees of the iGaming.com Group GmbH group of companies (iGaming) was analysed.

With the advent of Covid 19, iGaming has almost completely moved from office work to remote work for all sites. Due to its geographical setup with hubs in a low-cost country (Bulgaria) and in Berlin with high salaries and cost and the remote working environment, it has been selected for this case study.

iGaming was started in Varna, Bulgaria, by a German founder in 2010. During the first years in business, activities were solely concentrated in Varna, which had been selected as company site because of then comparatively low salaries, reasonable qualification levels of locally available personnel, and a highly competitive flat tax rate of approximately 10% for corporations and personal income tax.

Later, iGaming opened a second office in Berlin, Germany, because attracting exceptional international talent was easier in this city with its startup cosmos. Up until the Covid 19 pandemic, iGaming had a strict policy of working from the offices for almost all employees. Being able to work from the office and living within a reasonable commuting distance had been seen as a pre-requisite for employment before the pandemic required remote work.

iGaming operates in the field of affiliate marketing with approximately 200 employees in Bulgaria and 100 in Germany. The nature of the business is affiliate marketing which is done purely online. No physical product is made and from a mere technical point of view, a common workspace is not necessary. By means of search engine optimization customer traffic is attracted, converted, and sent to online betting and gambling operators. For this customer acquisition, the company receives a commission. All employees and freelancers working for iGaming use MS Teams, Asana, and other software tools enabling remote work.

The business requires highly qualified employees in the field of SEO (Search Engine Optimization), content management, and technical tasks. Most employees have university degrees and are multi-lingual (Exhibit 1).

The workforce of the company is multi-cultural, with more than 25 nationalities. Although physical offices still exist, all employees are free to decide from where they want to work.

In addition to changing from office work to remote work at the beginning of the Covid 19 pandemic, iGaming saw substantial growth in 2021 and 2022 that came with a headcount increase of more than 100 employees and freelancers. All of them were hired remotely. iGaming's management started recruiting worldwide and made remote work standard for all employees while keeping the offices to offer occasional on-site work after the Covid 19 pandemic.

In this setup, management and leadership structures had to change, different salary levels and global availability of qualified personnel increased the flexibility for recruiting.
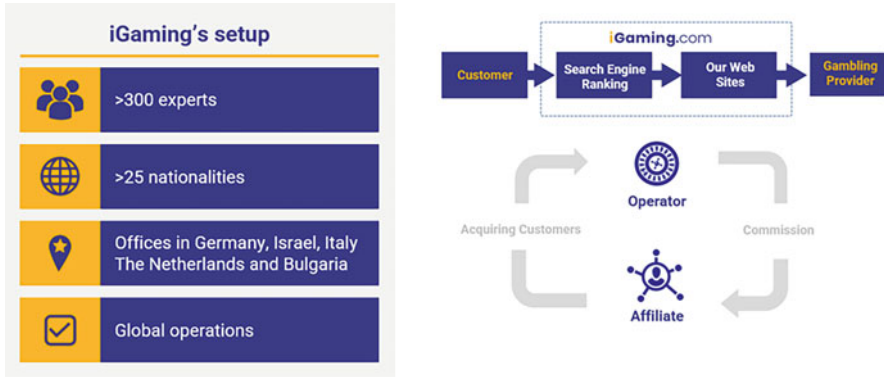
Exhibit 1 Setup and business model of iGaming (iGaming, 2022)

Having the necessities such as laptops, monitors, office chairs and even desks, taken care of, the company then had to assess which processes needed to be re-evaluated or changed entirely, and to determine if there were new processes to be implemented due to the new circumstances. One of the first new processes that were implemented was simply a weekly newsletter, since some of the employees located in Berlin did not speak German, so they had to be updated not only on company matters but also on local COVID-19 restrictions. Apart from business processes, numerous initiatives were started to support informal communication (iGaming, 2022). Examples are:

- Online lunches in small groups
- Online all-employee company events using platforms like Topia
- Off-topic MS-Teams channels for different interest groups
- Online after-work get-togethers

Due to the nature of its business, the company was not affected at all by the pandemic and the lockdowns. On the contrary, it experienced strong growth. Measured in revenue and profitability, the efficiency of work increased substantially during remote work.

Eventually, while still forced to work remotely due to Covid restrictions, an in-depth employee survey was executed to analyse stress and motivation aspects of the workforce.

The leading questions in the analysis were:

- How do motivation and stress levels differ depending on the physical location of the employees?
- How do different social and economic situations and costs of living influence motivation and stress?
- How does remote working influence the work–life-balance of the workforce?

3   Selection of COPSOQ for the Survey

To assess the levels of employee engagement, as well as their well-being after having to go into the fully remote mode of work as the consequence of the Covid 19 pandemic, the company decided to use the COPSOQ survey (the survey on psychological stress at work with the Copenhagen Psychosocial Questionnaire).

The survey for iGaming.com was prepared and conducted by Freiburger Forschungsstelle für Arbeitswissenschaften GmbH (Feiburg Research Centre for Occupational Sciences) which is operating the COPSOQ instrument in Germany. This standardized anonymous questionnaire provides an objectively easy to use tool that can reach large numbers of respondents who answer the same set of questions and can add their comments relating to the working conditions. It also 'represents a comprehensive achievement, because is not linked to a singular theory of work strain' and contains the elements of 'the most influential psychosocial theories at work, including the Job-Strain, Demand-Control-Support and Effort-Reward-Imbalance models, but also other theories and aspects ignored in previous tools, for instance emotional demands or role clarity' (Copsoq, 2022d).

The COPSOQ survey was first developed in Danmark in 2000 by Tage S. Kristensen and Vilhelm Borg at the Arbejdsmiljøinstituttet (Danish National Institute for Occupational Health) in Copenhagen. What they wanted to achieve was to create a comprehensive questionnaire that could be easily applied to various professions and departments within companies. Since then, the updated versions of the survey were prepared and validated and adjusted for use in different countries and in more than 25 languages. The analysis of the validation for the German market can be accessed on the COPSOQ website ('Measuring', 2022). Currently it is one of the most popular tools used for assessing psychosocial risks at workplace and is approved by numerous organizations including the World Health Organization, International Labour Organization, and the EU Occupational Safety and Health Agency (Copsoq, 2022c). As of 2020, German division of COPSOQ research has anonymized data of more than 400,000 persons from surveys in over 1000 companies (Copsoq, 2022a).

The main reasons for choosing this specific method were the anonymity it offers, flexibility in adding or removing question modules, the wide range of areas it covers, as well as—possibly the most crucial factor—the extensive database of results as a benchmark to evaluate the results. Another advantage of this type of survey is the free text section where the employees can anonymously share their more specific concerns, ideas, and feedback.

The survey was conducted by FFAW (Freiburg Research Centre for Occupational Sciences) together with a steering committee consisting of a small number of company employees.

Since the data is evaluated on a unit level and to ensure the anonymity of the results, groups of minimum five persons had to be created (for example, Content Team Berlin, SEO Team Varna, etc.). In cases where less than five members of any group returned the survey, data was not used for privacy reasons, or the group was

attached to another one with similar profile where it made sense. The survey was performed online with every employee receiving an email with login details and was open for 4 weeks. In the next step, the FFAW compiled and analysed the data both on the overall and unit level.

To respond to the changing work environment that iGaming.com employees had been facing since lockdowns were first introduced in March 2020, the COPSOQ survey included a special Corona module. This part of the questionnaire was added at the company's request and is not featured in all of the surveys operated by FFAW. The data pool for this section contains about 14,000 employees and covers three main areas:

- Working situation in the Home Office
- Organization and Communication
- Workplace Strategies and Evaluation

4   Data Base and Grouping of Personnel for the Survey

Apart from the additional Corona module, the employee survey was conducted using a moderately amended standard set of questions of COPSOQ to ensure not only comparability between organizational groups and physical locations but also between company data and a broad basis of industrial data as benchmark (Exhibit 2).

The staff was grouped into:

- Functional teams (content, technical, SEO, administration)
- Hierarchical groups (C-level management, supervisors)
- Geographical allocation (office of administration, since work is remote)

In addition, survey participants were asked for their gender, their age group, and their tenure with the company.
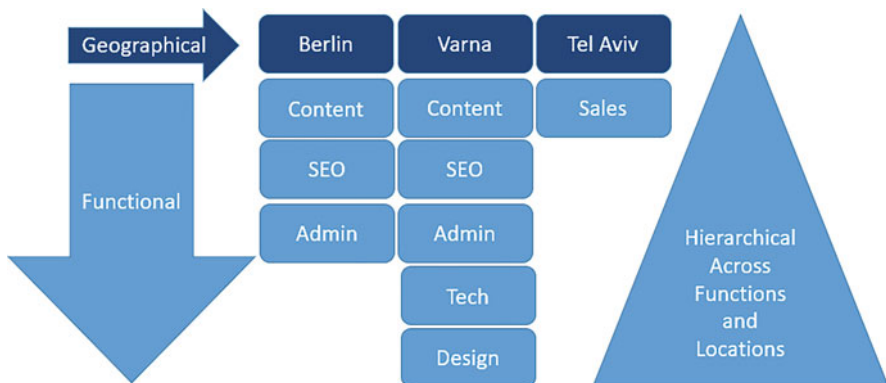

Exhibit 2   Grouping of personnel for the COPSOQ survey

The rationale for this grouping was the hypothesis that employee motivation and stress levels might differ between geographical locations of the employees, their hierarchy level in the organization, and their functional group. Since supervisors (team leads, heads of departments, and member of the C-level group) partly have responsibilities across different regions and different functions, some assessments for the groupings had to be made in case of overlaps.

5 Survey Results

The following section highlights selected areas that were included in the survey. Company results were measured against the general COPSOQ data pool as well as against the following peer industry groups:

- Publicity, marketing, public relations, media management
- Organization, administration

While the iGaming survey covers a fully remote organization, the peer industry groups reflect remote and office work environments. Therefore, the survey results not only show the comparison against similar industries but also the comparison against a mostly non-remote peer group.

5.1 Measuring Demands

High demands in the job generally influence stress levels and work satisfaction negatively (Akanksha & Kenrick, 2021).

Exhibit 3 shows results for the demand section of the survey, covering aspects such as how demanding the work is, whether it is high paced or not, whether long hours are expected, and whether the individuals are able to meet their deadlines. These are quantitative demands. Lower values on the scale are to be interpreted positively, while higher results mean higher stress. Quantitative demands at iGaming are rated considerably lower than the average of COPSOQ data pool.

The 'Emotional demands' section of the questionnaire covered topics such as emotional demands of the job including dealing with other people's emotions. The iGaming results show generally low values as well, which is considered to be more positive for stress and motivation, compared to the peer group.

The results among the different departments vary. There are several departments that have relatively high results, even higher than the COPSOQ data pool mean. In those departments, team members predominantly manage personnel or deal with external partners. There is a correlation between the hierarchical position and emotional demands, as shown in Exhibit 4, showing that people with a supervisor function generally face emotional demands above iGaming's average while

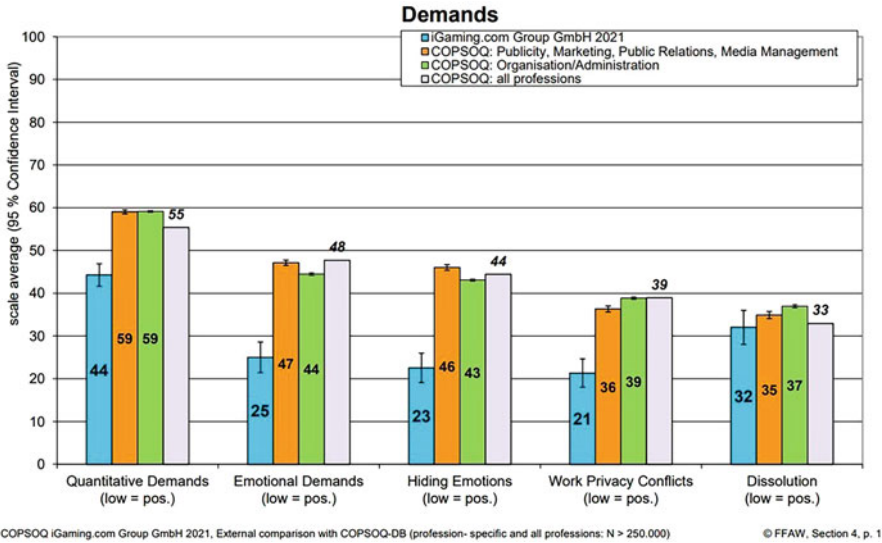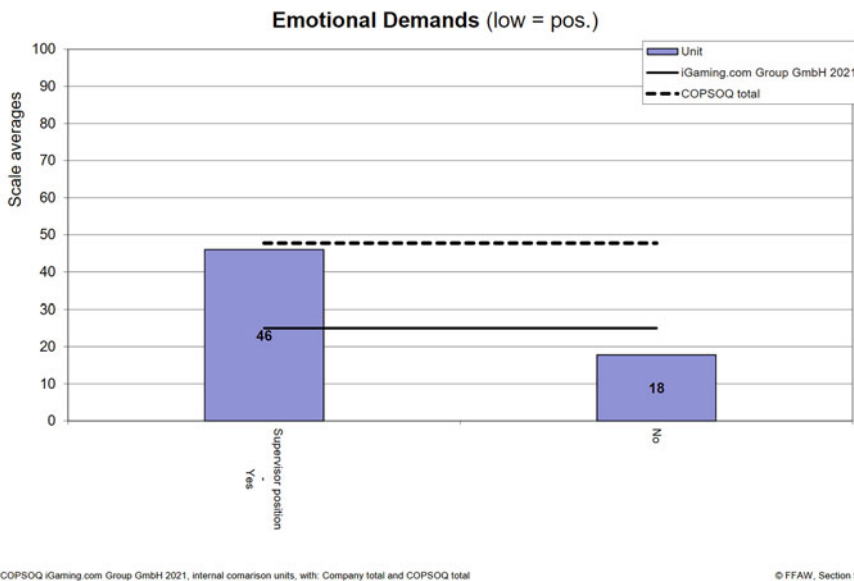**Exhibit 3** Survey results for demands

Exhibit 4 Emotional Demands—Comparison between supervising and non-supervising positions

employees at an operational or clerical level are exposed to much lower emotional demands.

The questions in this survey section cover also whether the employees feel they need to hide their emotions or are not allowed to express their opinions The results of

the company are considerably lower than the COPSOQ data pool mean (see Exhibit 3), without significant differences regarding hierarchy levels, gender, or geographical location.

After starting remote work, iGaming.com introduced a flexible working hours policy without any core working times. Therefore, it was deemed important to enquire about possible work–privacy conflicts. The intention was to find out if work is so demanding that it interferes with the private lives of the employees—in terms of time and energy spent on work and family. The results in this section are the lowest (meaning that there is a low level of interference) within the whole questionnaire.

It can be assumed that full flexibility of working times can be combined with private life better by many employees than in traditional companies that often run a scheme of core working hours that only offer a certain level of flexibility. Since working times are not controlled in iGaming's remote working model, this supports the idea of self-management in this respect.

The dissolution section of the survey is rated almost at the same value as the average of the COPSOQ data pool.

The highest stress levels were found in the sales team, physically based in Israel, Germany, and the Netherlands. This can be explained by the nature of work and requirements to manage various external stakeholders, often in situations with conflicts of interest. The perceived stress level in this case cannot be attributed to a geographical location because the team is spread across different regions.

The breakdown of the survey results of this section by departments and geographical locations does not show significant differences, apart from the hierarchy level. It can be concluded that the remote location of the workforce generally does not impact the perception of demands.

5.2   Measuring 'Influence and Possibilities for Development'

The section 'Influence and possibilities for development' included topics such as:

- 'Influence at work',
- 'Degree of freedom for breaks and holidays'
- Possibilities for development
- Meaning of work
- 'Commitment to the workplace'.

Questions asked in this section deal with whether people feel they can influence the decision-making process, the amount of work assigned to them, and if they can take a break whenever they feel like it.

Another set of questions investigated whether the employees feel proud working for the company and enjoy sharing about it with others. The results of these sets of questions are considerably higher compared to COPSOQ average and the industrial
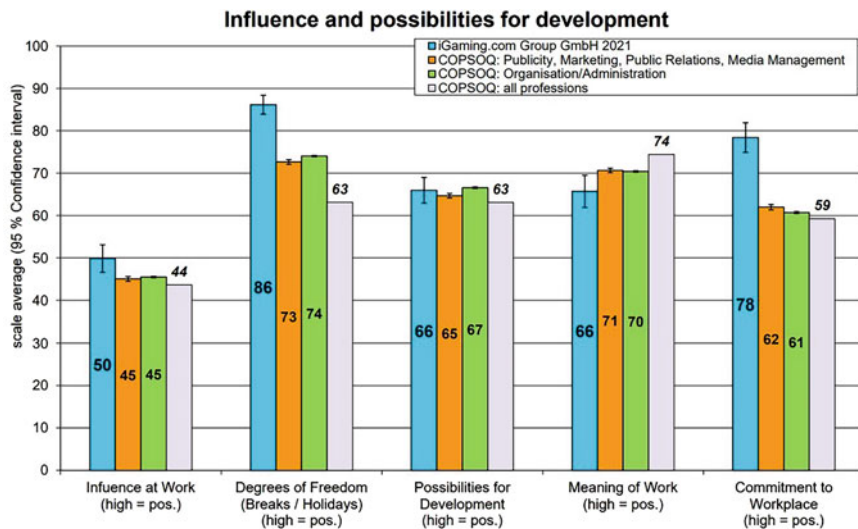
Exhibit 5 Survey results for influence and possibilities for development

comparison groups. In this set of questions higher results are to be judged positively, lower values are to be interpreted as unfavourable (Exhibit 5).

Overall, the survey shows that motivation and employee satisfaction at iGaming. com ranked higher than the industry peer group in all aspects. The only exception is meaning of work, which is of growing importance for employee motivation (Brower, 2021).

The low rating of employee satisfaction in the topic of purpose and meaning of work is driven by the nature of the business (Ditsche, 2021). iGaming is an affiliate business targeted at the online gaming and gambling market. This market is subject to ethical concerns (Griffiths & Whitty, 2010).

Once again, there are no significant geographical or office allocation differences regarding the results that indicate employee motivation systematically depends on physical remote location (Exhibits 6 and 7).

The survey shows that there are hardly any gender-specific differences in critical aspects like possibilities for personal development or recognition on company level. Although results differ slightly between departments and teams, there is also no significant difference geographically, hierarchically, or function-wise.

The online COPSOQ questionnaire was accompanied by online meetings with the employees. Two Mentimeter word clouds illustrate the understanding of well-being and of stress at work among the workforce. With 145 respectively 146 votes from 200 participants of the Mentimeter video call, it can be assumed that the word clouds are highly representative of the workforce (Exhibit 8).
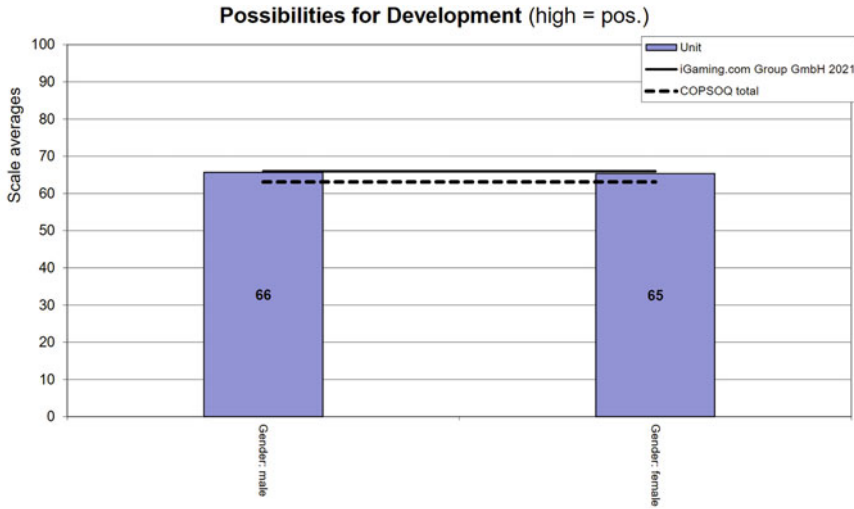
Possibilities for Development (high = pos.)

COPSOQ iGaming.com Group GmbH 2021, internal comarison units, with: Company total and COPSOQ total © FFAW, Section 5, p. 8

Exhibit 6 Gender-specific differences in the assessment of possibilities for development
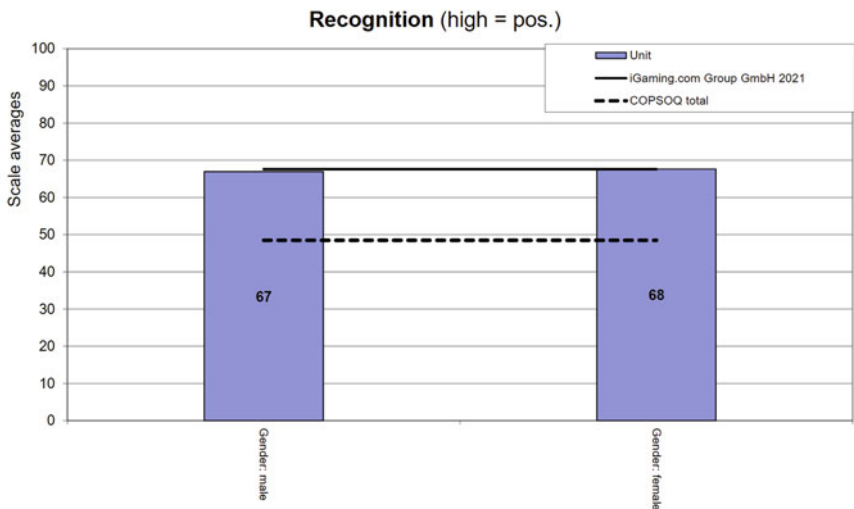
Recognition (high = pos.)

COPSOQ iGaming.com Group GmbH 2021, internal comarison units, with: Company total and COPSOQ total © FFAW, Section 5, p. 21

Exhibit 7 Gender-specific differences in the assessment of recognition

The Mentimeter word cloud for well-being at work shows results that are typical of any western workforce, regardless of working remotely or office based. This is also true for the 'stress at work' word cloud (Exhibit 9).

Exhibit 8 Mentimeter word cloud for well-being at work

5.3 Social Relations and Remote Work

While remote work turned out to be efficient, social relations are usually expected to be reduced when changing from office work to remote work. The occasional chat in the office, the cup of coffee with a colleague, or going out for lunch with fellow workers—all this does not take place when remote workers do not physically meet any more. As a consequence the aspect of social relations could become a problem when working with teams that are spread across the globe, that could be detrimental to the benefits of remote work like access to talent or taking advantage of different salary levels.

Exhibits 10 and 11 show that despite having worked remotely and despite having increased the headcount in times of remote work by approximately 50%, which stands for ca. 100 employees that have been onboarded without physically meeting any co-worker, it is possible to have an assessment of social relations at work that is better than the peer groups and the industrial average in all categories covered in the survey.

Exhibit 10 focuses on leadership, role clarity and the support and predictability of work. One could say that these are organizational and process-driven factors. Still, it is remarkable that in all these categories a fully remote company exceeds the peer groups that consist of office, hybrid, and remote organizations.

Exhibit 9 Mentimeter word cloud for stress at work
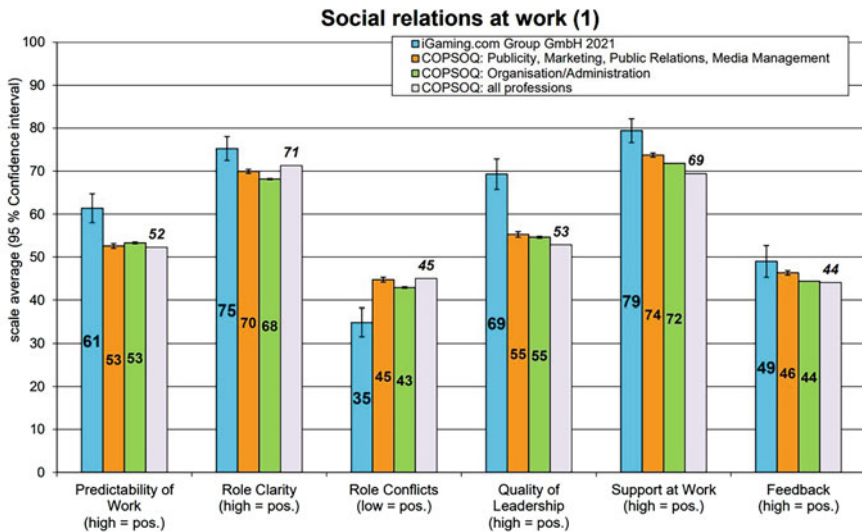
Exhibit 10 Survey results for social relations at work (1 of 2)
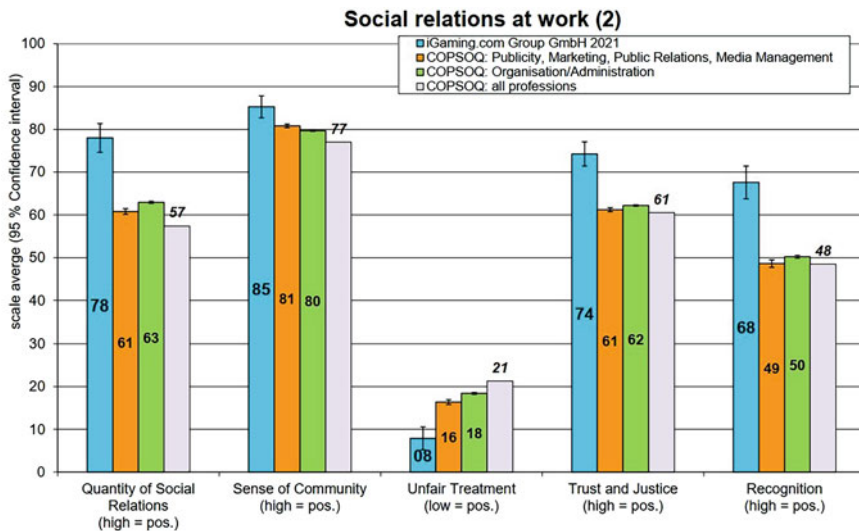
Exhibit 11 Survey results for social relations at work (2 of 2)

Even the quantity of social relations as shown in Exhibit 11 is higher than in the peer groups, resulting in an outstanding sense of community. The survey results indicate that social relations can be kept up at a sustainable level during remote work and working with team members that have never met physical can also be managed in a way that matches working together in an office. Therefore, social relations are critical, but not a limiting factor for remote work.

5.4 Challenges of Remote Work

Regardless of the location of remote workers, the most widespread individual challenges are social isolation, boundary management, and the ability to take sufficient breaks, as shown in Exhibit 12.

31% of the survey participants indicated that they feel cut off from their colleagues, which is perceived as social isolation. The comments show that this goes from not having drinks with their colleagues, feeling lonely, and lack of social communication to not feeling to be part of the company anymore. Although work–privacy conflicts have the lowest (and therefore 'best') survey results, the specific questions regarding the greatest challenges when working remote reveal that boundary management is still the most important challenge for 20% of the employees. According to the comments given, this is mostly caused by not having a separate working room at home, not by working times or company demands. This

What are your greatest challenges when working remote/at home?/

Including answers from „What are you MAD about when working remote/at home?"

Poor support for junior stuff: 12/197
Learning from others/ getting an overview
Stress is higher: 5/197
Expectation to be always online/communication

Boundary management as a challenge (no clear boundaries): 18/197
Work-life-balance/I don't have a separate working room at home, setting boundaries

Working together in a virtual team is difficult

I always have problems with the technical setup

I have to constantly set boundaries - to my family or to colleagues / customers

I feel cut off from my colleagues

I don't have a well-equipped workplace

Connection to team: 43/197
Not having the possibility to show my personality/not having beers/hard to bond with my team/lack of social communication/I feel lonely/not feeling to be part of the company anymore

The extent and duration of video conferences are a burden for me

online meetings: 11/197
Enduring/on short notice/no one turning on cameras/ forced to turn on my camera
Technical issues (e.g. no good mics);

I cannot take sufficient breaks

20% 11% 11% 8% 18% 31% 1%

Exhibit 12 Challenges when working remote

challenge can be pin-pointed by the following comment: 'When the only difference between work and spare time is switching from MS Teams to Netflix on the same laptop while lounging on the same sofa—it feels like living in a prison cell'. 18% of the respondents say that they cannot take sufficient breaks. While flexible working times technically allow breaks at any time, video calls on short notice were perceived as a challenge.

5.5   Survey Summary and Conclusions

According to the COPSOQ questionnaire results, there is no significant difference related to the geographical location of the employees. One conclusion of the survey is that motivation and stress levels depend on the hierarchical level, the nature of work, the group or department, and the leadership culture and management of the respective group—but not on the geographical location.

Salary levels vary between teams and within teams. This is a result of having competitive salaries per country. Furthermore, there is a history of working from the offices. During this time, it was undoubtedly clear to with legal entity an employee belonged an which salary level was appropriate. The survey results do not show significant differences in stress and motivation levels related to different salaries, even though people are working in the same team, doing very similar jobs but living in different countries.

Consequently, there is a high level of flexibility for companies to hire employees at any location in the world.

The survey explicitly covered the influence of remote work on motivation, stress, and efficiency. It was also asking for the ideal mix of remote and office work after the end of Covid 19 restrictions. The majority of employees opted for a hybrid model of office work and remote work. While the majority of survey participants saw the same or even higher work efficiency through remote work, employees noted a lack of social contracts due to the fact that meetings in the offices have stopped.

For most employees, the wish for physical social interaction was limited to a small number of days per month. Almost half of the employees expressed their preference to completely refrain from office work and stay complete remote. This means that with smart concepts, social interaction and bonding can be achieved with reasonable travel expenses even if some employees live far away from the offices.

The following list shows elements used by iGaming to make remote work attractive:

- Flexible working time—working hours are not monitored, but there is a cap on hours to avoid overtime
- Flexible location of work, even in different time zones
- Regular online all-employee meetings
- Sharing of company information, including financial data
- Lunch roulette: once a month, employees are grouped randomly and have lunch together in their home offices, funded by the employer
- Off-topic chats (food, sports, animals) to encourage non business-related communication
- Physical team meetings
- Office space for those who wish to spend time there
- Training Academy in E-learning mode (Ditsche, 2022)

5.6 Salary Levels and Economic Environments for Remote Work in Different Countries

In general, salary ranges in Germany, Bulgaria, and other locations differ substantially. In particular, the local salaries of iGaming reflect this difference.

This raises the following questions:

- Is it more important for the employees to compare their income with local income levels (including taxation regimes) and the costs of living or is the comparison with their peers in other countries that work for the same organization more important?
- Can companies freely choose where and at what salary level people are employed?

Economic Data Comparison

	Georgia 2020	Bulgaria 2020	Germany 2020
Population (million)	3,7	6,9	83,2
GDP (USD billion)	15,9	69,9	3.850,0
GDP per capita (USD)	4.275,0	10.079,2	46.252,7
Life expectancy at birth (years)	73,3	74,9	81,0
Average monthly salary (USD)	303,6	678,7	3.727,3

Exhibit 13 Economic data comparison—Georgia, Bulgaria, Germany

It is commonly understood that in a capitalistic market environment, there is a price mechanism that results in a balance between supply and demand, with the market demand being the main driver when sufficient resources are available. When the supply of services can come from anywhere in the world and when no physical transport takes place, you can assume that transaction costs are almost irrelevant. Consequently, it could be assumed that regardless of the location where a digital worker executes the work, the market price of the work should be almost the same (Exhibit 13).

The comparison of economic data for Georgia, Bulgaria, and Germany shows that GDP per capita and average monthly salary are substantially different (Statista, 2022).

To exemplarily look at the possible influence of remote work on national average salaries, an SEO (Search Engine Optimization) expert's salary is selected, because in this profession work is technically possible from anywhere in the work—and it is a common practice already.

While the average monthly salary in Germany is approximately 12 times as high as in Georgia, the difference between an SEO expert in Georgia versus SEO expert in Germany is merely approximately three times the Georgian salary. The salary gap is still massive—but substantially smaller than the comparison of the average monthly salaries across the national average. This levelling effect is also visible between Germany and Bulgaria. The average monthly German salary is higher by factor five while the typical SEO expert in Germany earns less than twice the salary of the Bulgarian counterpart. The average Indian SEO expert earns less than 10% of his German competitor on the labour market. (Payscale, 2022 and iGaming data) (Exhibit 14).

Are digital workers exceptions and can they monetarize their work at international rates? For the majority, the above statistics show that they cannot fully exploit globalization. Still, the salary gaps between SEO experts in Germany, Bulgaria, and Georgia are significantly smaller than the gap between average salaries.

Annual Base Salary - SEO Expert (USD, 2021)

Exhibit 14 Annual base salary of an SEO expert in different countries (2021)

Such substantial differences cannot be justified by different costs of living in the long run, neither by a perceived difference in the performance and efficiency (Dodd, 2021). Especially when there is no scarcity of supply, it is likely that digital workers that today can charge high rates like in Germany or in the USA, must substantially reduce their rates to remain competitive.

Furthermore, it is expected that annual salaries in Bulgaria and Georgia are going to double with the next 5 years, while increases in Germany are expected to be much smaller, so that prospectively the salary gap between Germany, as an example of a G7 highly industrialized and high-income country, and both Georgia and Bulgaria, will become much smaller (Statista, 2022).

From a purely financial point of view, it makes sense for remote workers in the digital industry to live in a low cost and low tax country while selling the work at international rates—maximizing the disposable income.

This is an opportunity for Bulgaria and Georgia to attract digital nomads and retain international workers. Georgia is listed as one of the most attractive countries for digital nomads (Hake, 2022) while Bulgaria offers the lowest personal income and corporate tax rate in the European Union (Stanchev, 2016).

With the programme 'Remotely from Georgia', Georgia actively promotes the country as an attractive location for foreign digital workers, aiming at candidates that have a salary of more than USD 2000 per month. This indicates that there already exists a workforce that generates an income substantially above the Georgian average and perceives Georgia as an attractive place to work. As of 2020, 95 countries are listed from where digital workers can move to Georgia with low bureaucratic hurdles and stay without a visa for 365 days (Georgia Travel, 2022).

Potentially, different salary levels as well as different costs of living could cause problems in organizations that operate in countries with high and low salaries at the same time. Also, minimum living standard expectations of digital workers might be prohibitive if they are not met by a region or country. Working remote also can be

challenging regarding teamwork, the feeling of togetherness, purpose, and motivation. Technically, any remote digital worker can change the employer with moving to another location and literally changing the desk and chair in his home office.

6 Conclusions and Outlook

From the point of view of a company, remote work not only offers access to labour across the globe but also will remain an opportunity to reduce costs. Although salaries in low-cost countries are expected to increase, it will take years until they reach the same level everywhere. Depending on the scarcity of supply, regional salary differences might not go away at all for most remote workers. Being able to offer cheaper rates will increase market shares of the respective countries in the race for digital work.

Technically, remote work is an established way of co-working, supported by all tools needed to make it efficient. From a personnel perspective, the survey shows that remote organizations can outperform the industrial average of companies with employees working at offices and factories in terms of stress levels, motivation, and employee satisfaction.

In terms of remuneration, remote work will become a game changer. The war for talent requires competitive salaries. Location and costs of living determine the minimum income required by an employee. The existing functional and hierarchical salary structure of a company defines the salary ranges needed to fit into the organization. But the market mechanism of supply and demand will determine the actual salary based on company needs and scarcity of the qualification sought. This will shake up traditional salary structures, this will even question whether superiors naturally have higher salaries than their team members.

Not so long ago, people had to decide if they were willing to move nationally or even abroad to tackle a new job opportunity. Today, remote digital workers can log in to another employer's system without even changing their computer or their desk.

Companies must deal with remote work across the globe because it exists. If demand is high, costs of living are relatively low and salaries are still below those in more developed countries, this situation is a massive opportunity for low-cost countries to attract a digital community and become a major hub in this industry—with jobs that already generate a multiple of average local salaries.

The research presented in this chapter shows how an exemplary company moved from office to remote work during the Covid 19 pandemic, turned remote work into a competitive advantage and kept up a family and company feeling while growing rapidly mainly in two countries with different economic environments.

The outlook for remote work can be summarized as follows:

- Remote work is a great equalizer—but it will take time.
- Digital workers are flexible—but they want a feeling of togetherness.

- Income levels of remote workers will depend on their qualification, self-marketing, and willingness to sell their services globally.
- Remote work is an opportunity for developing countries to attract high-paid jobs—with a good infrastructure, reasonable costs of living, an attractive tax scheme, and a global mindset.
- Employers will continue to benefit from different salary levels—but the effect will decrease.

Remote work can become the big equalizer of the twenty-first century for some and a small equalizer for many. Eventually, salaries will most likely be more levelled than today. What needs to be seen is to what extent today's high salaries will drop and to what extent currently low salaries will increase in the process of levelling.

References

Airbnb. (2022). *Airbnb's design for employees to live and work anywhere [online]*. Retrieved May 13, 2022, from https://news.airbnb.com/airbnbs-design-to-live-and-work-anywhere/

Akanksha, A., & Kenrick, D. C. (2021). Work demands influencing job satisfaction: Testing for the moderating effects of job control within non-profit employees. *US-China Law Review, 18*(1).

Brower, T. (2021). *The power of purpose and why it matters now*. Retrieved July 17, 2022, from https://www.forbes.com/sites/tracybrower/2021/08/22/the-power-of-purpose-and-why-it-matters-now/

Copsoq. (2022a). *Welcome to the network for scientific research and risk assessment with the Copenhagen Psychosocial Questionnaire (COPSOQ) [online]*. Retrieved April 28, 2022, from https://www.copsoq-network.org/

Copsoq. (2022b). *Guidelines and questionnaire [online]*. Retrieved May 2, 2022, from https://www.copsoq-network.org/assets/Uploads/COPSOQ-network-guidelines-an-questionnaire-COPSOQ-III-131119-signed.pdf

Copsoq. (2022c). *Measuring psychological stress and strain at work: Evaluation of the COPSOQ questionnaire in Germany [online]*. Retrieved May 2, 2022, from https://www.copsoq.de/assets/pdf/COPSOQ-German-Validation-English.pdf

Copsoq. (2022d). *Welcome to COPSOQ [online]*. Retrieved May 2, 2022, from https://www.copsoq.de/en/

Ditsche, A. (2021). *Affiliate marketing for online gaming–insights into a changing market*. Center of Conflict Resolution. 15.2.2021, https://youtu.be/hBlrDioNFmg

Ditsche, A. (2022). Das Ende der Bullet-Points–Erfolgsfaktoren für E-Learning und Online-Klausuren aus Dozentensicht. In M. A. Pfannstiel & P. F.-J. Steinhoff (Eds.), *E-Learning im digitalen Zeitalter*.

Dodd, G. (2021). *Democratizing opportunity, the impact of remote work on globalization*. https://vox.lacea.org/?q=blog/remote_work_globalization

Georgaris, K. (2022). *Remote work and the globalization of services*. https://www.toptal.com/insights/rise-of-remote/globalization-of-services

Georgia Travel. (2022). *Work remotely from Georgia*. Retrieved July 17, 2022, from https://georgia.travel/en_US/article/remotely-from-georgia

Goldberg, E. A. (2022). *Two-year, 50-million-person experiment in changing how we work [online]*. Retrieved May 24, 2022, from https://www.nytimes.com/2022/03/10/business/remote-work-office-life.html

Griffiths, M., & Whitty, M. (2010). Online behavioural tracking in internet gambling research: Ethical and methodological issues. *IJIRE international journal of internet research Ethics*.

Hake, N. (2022). *15 reasons Georgia is the next big digital nomad hotspots.* https://travellemming.com/georgia-digital-nomad-destination

iGaming. (2022). *iGaming Company Presentation*

Ngyuen, M. (2021). Research shows working from home Doesn't work. Here's how employers should tackle the problem [online]. Retrieved May 24, 2022, from https://time.com/6088110/remote-work-structured-hybrid-research/

Payscale. (2022). *Salary Date Research Center.* https://www.payscale.com/research/DE/Country=Germany/Salary

PWC. (2022). *It's time to reimagine where and how work will get done [online].* Retrieved May 24, 2022, from https://www.pwc.com/us/en/library/covid-19/us-remote-work-survey.html

Smith, S. (2019). *The History of remote work (with Infographic) [online].* Retrieved May 13, 2022 from https://www.linkedin.com/pulse/history-remote-work-infographic-steph-smith/

Stanchev, K. (2016), *Flat tax in Bulgaria,* https://www.researchgate.net/publication/342047958_FLAT_TAX_IN_BULGARIA_History_Introduction_Results_Sofia_IME_2016

Statista. (2022). *Statistical Data*. Retrieved July 17, 2022, from https://de.statista.com/

Wigert, B. (2022). *The Future of Hybrid Work: 5 Key questions answered with data [online].* Retrieved May 24, 2022, from https://www.gallup.com/workplace/390632/future-hybrid-work-key-questions-answered-data.aspx

Yang, L., et al. (2022). *The effects of remote work on collaboration among information workers [online].* Retrieved May 24, 2022 from https://www.nature.com/articles/s41562-021-01196-4

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Digitalization as a Driver for Successful Talent Acquisition and Employee Retention

Bettina Marcinkowski and Rupert A. Brandmeier

1   Introduction

How flexible working rules and regulations during the COVID-19 crisis are shaping future remote working scenarios and post-pandemic leadership approaches. What features will stay (and be further developed), what kind of risks of working from home/remote work have to be taken into consideration, and what will be the best advice to establish a healthy working environment attracting high-caliber personnel and achieving sustainable business performance.

Based on recent publications, a pilot micro-survey at the Department of Management at Kutaisi International University and day-to-day practical business experience as HR subject matter experts, the authors will discuss the effects of extended home office work during the COVID-19 pandemic on employees, management, leadership, and corporate culture. Although numbers of positive effects are obvious and already mentioned, there are downsides to extensive remote working scenarios as well. Now, in the current period of transition from "pandemic" to normal occupational conditions, it will be highly revelatory if the beneficial aspects of remote work (i.e., a higher employee performance due to better focus and less distraction) can be carried on in future working scenarios or will be a "restitution" of attendance take place? Demands for more flexibility regarding space time and work–life-balance compatibility are getting more and more important for employees (and for management); a trend recognizable for a number of years could now be tested in a real-life scenario on a global scale (Barrero et al., 2021). The authors will draw their conclusions according to the findings, compare different corporate

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cultures, and will advise on future working environment scenarios and leadership approaches. They will also focus on attracting new hires in meeting their demands while simultaneously considering corporate performance requirements.

Talent acquisition and employee retention, both topics were under stress during COVID19-pandemic and are major issues for Human Resources organizations worldwide. Especially the so-called knowledge workers were experiencing a new and until then not fully recognized liberty and freedom in organizing their work, enhancing performance due to better focus and less distraction and numbers of other amenities accompanied by homes offices. Certainly, we are discussing still a minority of the whole workforce; estimates give a range from 20% to 45% (Barrero et al., 2021; Hamouche, 2021) eligible or at least working in an environment that allows partly for remote working scenarios in industrialized economies. But exactly this segment of knowledge workers in these countries with a highly sophisticated industrial landscape and complex working environment suffers the most from labor shortage and lack of experienced personnel. It is not so much a challenge of finding motivated blue collar workers for the huge variety of vocational jobs (with quite a number of exceptions taking the shortage of truck drivers in England or certified craftsmen in the construction business in Germany into account, just to provide two examples) but have enough skilled employees to manage the challenges of rapid digitalization, continuous organizational changes in the wake of Industry 4.0, and accelerated technical progress in almost all areas of operational management. War for talent, martial as the expression sounds, did start long before the pandemic but is currently at its peak. A phenomenon we encountered in our work which has received little attention so far is the impact on employee loyalty to the company during the last 2 years. We recognize a significant trend of resignations of workers in the fading phase of the pandemic and an elevated readiness to rethink one's current position and the work environment. During job interviews as well as in discussions with managers and business partners, we found out that for a number of reasons candidates are not that easily willing to join a new work environment as before regardless of attractive salaries and fringe benefits. Especially the willingness to relocate has diminished substantially. Compared to the situation before 2019, candidates were more open to moving to work places, accepting constraints in employability of accompanying spouses, less attractive locations with a narrower spectrum of cultural and social life or limited international schooling for their children. The option of working from home or from anywhere was only seldomly discussed if at all. Physical presence used to be the rule and was not questioned beyond a little more flexibility on Friday. That has changed. A lot. It does not take more than a few minutes that candidates, with few exceptions, raise the matter of remote working policies and the need to relocate. Remembering the old days, when a posh company car and business class flight arrangements were of utmost essence in almost every job interview, we do not hear a single word of these topics anymore. Luring candidates into the office (yep, here it is ... .the nasty word...) with cool campus infrastructure, cafeterias, and fancy game corners is a thing of the past. No more tabletop soccer contests or town hall events with higher management. Simply not interested.

But what happened to the best and the brightest within such a short time span and what are the reasons for these fundamental changes?

2   History of Remote Work

Well, first of all, remote work or working from home is not such a new concept anyway. When the industrial revolution started it was customary to outsource work to the so-called homeworkers. In Switzerland, for example, the home industry (also called putting-out system, cottage industry, workshop system or domestic system) in the textile and watch making sector was the predominant organizational work form until the 1880. The workers partly owned their tools and production facilities, they provided the costs for the production facility like a separated workshop or the transformed living room of the family. They were also responsible for the "operating staff" (family members and friends) to perform tasks according to specified requirements. In cases that the workers did not own their equipment, this was provided by the employer as well as the raw material, the logistics and distribution services. An increasing degree of industrialization, complex work processes, and investment demand for machinery and space marginalized the home industry in Western countries in the later years, but it never vanished completely. Especially remote rural areas kept these domestic systems well into the 1950s to provide additional income to farmers during winter season as well as women who were confined indoors for family reasons (Tanner, 2015). Nevertheless, after the Second World War the office, the company floor shop, or the trader shop were the de facto standard to perform work for fast majority of the people. They were used to leave their homes in the morning, commute to another place, and leave there in the evening hours. The first significant change happened in the 1970s as hikes in gasoline prices provoked by the Organization of Petrol Exporting Countries (OPEC) 1973 oil embargo and the 1979 Iranian Revolution caused major disturbances in Middle East oil exports (Choudhury, 2020). These crises entailed stagnant economic growth in many countries and made commuting to the work place an expensive endeavor for many employees (Waters-Lynch, 2020). To relieve their budget constraints to a certain extent they were given permission to work from home part time for occasional days but were requested to show up in the office regularly. By the 1980s, remote office work was part of a more flexible work system a number of companies were experimenting with (Toffler, 1980). The primary idea behind these flexible work arrangements, alongside a variety of part-time working options, was to give especially the female work force the possibility of combining family obligations with professional aspirations. Tapping into the huge talent pool of educated women took off as in a large number of industry segments skilled labor got scarce and immigrations was not always the answer. The 1990 brought more flexibility regarding location and time to the now more and more globalized workforce. Managers, subject matter experts, and consultants were getting used to travel the globe, switch their devices on whenever needed to participate in dead-of-the-night meetings with colleagues and clients in different time zones. These were the first proofs of concept of something similar to "working from anywhere." Rapid innovations in collaboration technologies, devices, network bandwidth, and stability of Internet connectivity (and security) contributed to the fast spread of flexible remote working scenarios. The proverbial Friday in the Home Office started to take off.

The big push of home offices, home schooling, and all kinds of lockdown related remote work came with the COVID-19 pandemic 2019. Working from home scenarios suddenly became a compulsory set-up for a large number of office workers. Companies frightened by a new yet not encountered disease, and governments completely out of their depths facing a never anticipated global challenge responding with a shut-down of virtually all areas of public and private life. Super spreading events of the skiing resorts in Ischgl, Austria were a major pandemic disaster. From January 2020 onward, contaminated partying skiers from all over Europe brought the virus to their home countries and caused the major distribution of the lethal disease in their local communities. Lack of any sense responsibility, incapacity in combination with greed and sloppiness lead to a series of investigations and trials, during publication of this article still in its infancy.

People got desperate and anxious forcing economies to adapt to the situation in unprecedented speed and scope. From 1 day to the other, the entire working population of almost every economy (few exceptions) was sent home to perform either "home office" or idle around. Spending on home furniture and laptops skyrocketed, food delivery services made a fortune, and Amazon's shareholders could not stop dancing with joy. Countries lacking behind in their digitalization programs (like Germany and France) boosted their network coverage and undertook huge efforts to increase bandwidth of network connectivity to adjust to the tremendous hike in traffic and capacity utilization. This infrastructural endeavor was overdue and is not going to stop, along with the development of collaboration tools, applications, and orchestration of remote work. The pandemic triggered an amazing surge in innovations, beginning with the modernization of the infrastructure to all other prerequisites for extended and more elaborate remote working scenarios. To summarize this aspect, there is now, for the first time, no *technological excuse* for denying remote working scenarios for a very large community of knowledge workers in a large number of (not only industrialized) countries.

3   Pros and Cons of Remote Work

The next surprising effect was the increase in productivity of the remote work force: fewer distractions, more focus, better—faster—more efficient meetings (Choudhury, 2020; Hamouche, 2021; Sawhney, 2021; Lund et al., 2020; Barrero et al., 2021). The most important factor regarding productivity improvements was, and still is, the reduced effort in commuting to work. Taking into account the congested city roads and major highways during the rush hours (and these are getting longer and longer) it is no surprise that a relieve in travel and commuting time brought significant benefit to the moral and motivation of employees. Remembering pre-covid ordinary working days then stressed-out mothers of children in school or kindergarten were anxiously checking their watches, figuring out the fastest route during a given but constantly changing time slot in the early afternoon hours or colleagues living in the woods (or other remote places) getting fidgety and loosing concentration, a thing of

the past. Certainly, the early days of compulsory home office brought some challenges to almost every one of us. Not few the number of families who were not prepared for a lockdown in such a short notice and with those large-scale changes in their daily lives. Lack of serviceable computer equipment and networking infrastructure, starting with laptops to collaboration tools ending with bandwidth. Familiarity with tightness and constrictions of working together was something that had to be acquired instantaneously. The traditional working model, at least one parent out of the house during the day, leaving early, returning late had to be abandoned for a at the beginning awkward "Daddy is around all day" working set-up. As the tangible asset challenge turned out to be manageable (also to large extents supported by employers who stocked up mobile IT-equipment), the physical work plan was harder to get a grip on.

Decision processes like who was eligible to switch on the video during a tele-conference and thereby suck away precious bandwidth the other family members were desperately yearning for, will be long time remembered. At least in a multi-person environment, members were seldom left out of the process and complaint about loneliness (mostly the other way around—a lack of privacy and seclusion). Those who were not integrated in a close family set-up did not have the challenges of sharing resources or aligning individual work habits but were facing the demanding task of organizing workdays on their own. Their problem was not so much the time off from family duties and obligations but the lack of social contacts, physical presence of people, and closeness (Hamouche, 2021; Molla, 2022a). Especially the missing of clearly defined barriers between work and not-work turned out to be of a major impact on worker's well-being. Symptoms of depression and other stress related illness spread among single households more often than within families.

The author at her home office work place in Munich, Germany during the lockdown giving a lecture (picture by author)

These learnings from the recent pandemic situation have to be taken into account for future working set-ups and organizational designs; we will discuss possible approaches later on (Gratton, 2021; Fayard et al., 2021).

One of the major changes are affecting the real estate sector. During the first months of lockdowns and the realization that business continuity was not suffering any performance impacts, facility managers begun their cost saving calculations. And the results were impressive. Big industry names decided that in a post-pandemic scenario cost saving from reduced floor space is here to stay, offering generous home working regulations (Demas, 2022; Barrero et al., 2021). Quite some companies were changing from personalized, fixed desks to shared desks solutions or pre-booking of desks for the days the employee plans to be onsite. The loss of an individual desk with pictures of the family or from the last vacation was the consequence. That often led to a de-bonding feeling. The employee could not chit-chat with the colleague who was the dedicated office desk neighbor but had to get acquainted each time being in the office with a new colleague.

A side effect of the shift in real estate usage—commercial and private—is the rise of real estate prices in the vicinity of metropolitan areas as more people decide to move to the outskirts of the cities. Interestingly this does not relieve the overheated rental situation in most cities. Rents and prices for apartments and town houses stay high and even increase paralleling the surge in per square-meter prices for land and buildings in rural areas close to commercial centers (Demas, 2022; Lund et al., 2020). With the shift from central downtown office and commercial areas to farer away residential communities came the drop in near employer premises spending of commuters (food, shopping, personal services, entertainment and more by at least 5–10% (Barrero et al., 2021). If this trend will continue is difficult to predict, assuming that the total number of people commuting to the office will decline a reduction in usage of these services may be a good guess. Again, the drop in one area will lead to an increase in spending in residential areas (Lund et al., 2020).

From a leadership perspective the pandemic lockdown induced numbers of challenges. Professional application of collaboration tools has already been mentioned, employees suffering from poor network infrastructure and bandwidth problems were issues to be tackled, kitchen tables as office desks and entertaining background settings something we get used to. But how to motivate the team, establish discipline, and evaluate performance? Contrary to ultimate disaster scenarios previously anticipated by anxious managers with little experience with remote working scenarios, in the early days of the pandemic, these issues turned out to be manageable. Media expertise and remote presentation skills developed fast, becoming a video—(movie) star was something some of us started to enjoy and being aware that the mute button is active contributed to improvements in language politeness and business etiquette. Virtual coffee talks increased as physical invitations to all kind of seminars, town hall meetings, and whatsoever mushroomed or got canceled. Even hiring new employees fully remotely did work unexpectedly well. During the pandemic the author hired and onboarded 70% of the team exclusively via video interviews. There was a challenge for candidates to sign a new contract with the company without having had the chance to meet the colleagues and the

manager personally onsite. They had to make a virtual decision bringing the whole family to a new location where they did not have the opportunity due to the lock down and closed borders to do a proper look and see tour to get acquainted with a new living and working environment. The employer branding department of the companies produced attractive videos of the company and the vicinity during the pandemic to send to the candidates to share with them (Hamouche, 2021).

According to our research remote leadership was not the issue. What we encountered was and still is a declining loyalty toward the company. Due to the missing physical interaction of work groups and the lack of direct interaction between employee and management there was a lack of bonding options facilitated by a physical office location. Team building and organizational development e.g. work groups or interdepartmental exchange is less effective done remotely than on site. Coffee chats, joint lunchbreaks, the after-work party, all mechanisms to relieve steam and establish a corps spirit were not possible during lockdowns. This lack of corps spirit is now, according to our understanding, in the post-pandemic a major contributor for resignations. The churn rate or the willingness to quit is currently on the increase.

4 Candidates' Expectation

This brings us to the candidates' expectations regarding the new job, and a certain ambiguity that challenges the companies. Although quite a significant number of professionals complained about working in isolation during the pandemic with often hard times balancing out work and leisure, missing colleagues for a social chat, and the above-mentioned core spirit, only a very few numbers want to switch back into the pre-pandemic 5 days physical in the office 9–5 schedule. Interestingly, when asked how to proceed in the future, a large number of employees opted either for part-time or full-time working from home scenarios (Gratton, 2021). Obviously, the lockdown stress scenarios fade out quickly when it comes to a rational cost–benefit calculation. This is even more relevant during the current hiring process for positions, where scarcity was always an issue (good examples are cyber security specialists, complex engineering or legal positions with a very narrow but deep expertise in subject matters), the location of the company is unfavorable, or the company's reputation is more of a bush-league. In our research as well as in our daily routine we encounter all of the three mentioned cases. The unfavorable physical location of the premises turning out to be the most difficult one to tackle. Normally, in case a company at a decent location does need specialists in high demand, it is a matter of the monetary compensation (provided the fringe benefits like, e.g., schooling for children, employment possibilities for a spouse, etc., are agreeable). The problems start if the place of location is unfavorable, the candidate (and the family) must relocate, and a remote working scenario is not an option (e.g., because of social security or tax regulation). Facing this situation for the past 3 years we experienced a surge in rejections since 2020 when candidates begun expressing their wishes for

increased home office work and denial to relocate. The arguments were manifold, lingering fears of getting infected, fear of proximity and meeting others in larger groups among the minor issues, giving up a most valued social life apart from a vibrant social media presence with circles of friends nearby, family support for small children, and an existing employment of partner or spouse among the more mission critical ones. Financial compensation and non-monetary incentives were not counterbalancing location disadvantages like a poor cultural life or difficulties of integration in the new society. Talented professionals regardless of provenience can select their (almost) perfect fit from an abundance of open positions worldwide. The "war for talent" has not—as predicted during the first phases of the pandemic—slowed down or affected only specific industry segments but has increased significantly. Poor home schooling during the pandemic with a significant neglect of mathematics and science subjects has already diminished the even before the pandemic scarce supply of engineering capacity globally, women not returning to the office after the pandemic for a variety of reasons, and the dramatically increasing number of baby boomers opting out of employment long before reaching the retirement age among the reasons. Classical areas for staff recruiting like Eastern European countries or the Eastern Mediterranean are dried out or candidates getting reluctant to move (Mappes-Niediek, 2018): improving opportunities to start own enterprises facilitated by digitalization, family ties like aging parents, inherited property, or simply the joy of life in one's own culture group. The time when young people were forced to leave their home countries are over. The age of digitalization allows for participation in the global economy without necessarily—or better involuntarily—leaving the place of desire.

5 Digitalization as a Driver for Talent Acquisition and Employee Retention

In accordance with these statements, we are strong believers in and supporters of the digitalization as a management concept for filling the gaps of job vacancies and keeping high-caliber staff on board (Maas, 2021; MacArthur, 2021). Working from anywhere (WFA) does provide more advantages than disadvantages and it is not a matter if a company is willing to establish WFA but how fast and how professional this process will be undertaken (Jacobides & Reeves, 2020; Schawbel, 2021). We believe that the most important issues for both parts, the company and the candidate, are the possibility of best-matches job profile/capabilities. Without a WFA option companies will miss out on top candidates, those will not have the chance to participate in top projects. Remote working scenarios can support the effort of staffing the most suitable person to a task without the constraint of a specific location. This does not only apply for younger generation candidates joining the work force or junior professionals but also to the senior work force. WFA options give best agers (or whatever we call the 50+ workers) a chance to combine a better quality of life with a prolonged working lifetime (Molla, 2022b).

Snow birding in warmer areas or taking more quality time with grand-children is something that gets more important as time goes by, staying in the business sometimes hindering these aspirations. Keeping in mind the scarceness in certain professional domains like engineering, teaching, or professional services a remote working option is a suitable employee retention strategy (Sako, 2021). This again is by no means limited to senior employees but does apply for all age cohorts.

The author remote working from Panama City, overlooking the Pacific entrance of the canal 2022 (picture by author)

Secondly important is the impact for emerging economies. Drying out the markets is Eastern Europe was a long-time strategy by companies with enough money to lure the young talents away from their home countries and cultural background. Although we strongly believe in certain aspects of international mobility and recommend some time abroad as a great experience to gain knowledge and broaden one's mind, we are reluctant to support working migration due to economic disparity where people are more or less compelled to leave if they want to pursue a decent career. "Persuading" candidates to move although they express uncomfortableness is a shortsighted maneuver as it has turned out several times quite recently. Besides the high costs of discontinuation and re-integration, company reputation may suffer. WFA offers a unique opportunity to alleviate the brain drain that often affects emerging countries. Not only that young people are missing for a healthy community, taxation revenues are suffering, innovations are missing, and public/private infrastructure is in despair (Mappes-Niediek, 2018). If young professionals are offered fair chances to stay within their community, earn and spend

money at their native places, contribute to the development of their ancestral cultural environment and care about their folks, the devastating situation in many Eastern European communities might be reversed.

More positive impacts have already been mentioned: cutting company costs for office space, reducing emission because of less commuting, increase in performance (Barrero et al., 2021 predict a permanent 5%) due to better resource allocation of time, better focus due to less distraction; the list is not complete.

There are certainly a number of valid concerns and objections, some of them have already been mentioned in the above paragraph. Technological restrictions like the availability of HW/SW devices, network connectivity, bandwidth, or collaboration tools are certainly nothing that should be derogated but we consider these impediments superable and not worth elaborating further here, many excellent articles written by subject matter experts deal with pending issues in depth (i.e.; see Sako, 2021 or Hamouche, 2021 for more references). We agree that the blurred line between business and private time can be stressful for the individual with lacking control mechanisms and limited possibilities of mitigation. A clear on-/off-policy is required by the companies and managers have to lead by example, i.e. sending emails during off-hours with expectations of instant replays are a no-go. Responsible leadership is required to early identify susceptible team members, sufficient time and occasions have to be provided to support virtually and physically if needed. Compensation and performance management has been raised by a number of practitioners and researchers as issues related to remote work (Hamouche, 2021) but again this does not coincide with our experience. With a very few exceptions performance was at least on the same level as before the pandemic, i.e. on-site working mode. Managed and supported in the right manner we do not see a negative impact of a WFA model. Unexperienced or hesitant direct reports need and deserve more attention whereas afficionados of remote work basic mentoring according to their requirements (Schawbel, 2021). In the end it is a matter of trust and attitude of the manager and the employee. Establishing a remote working culture is a transition process, a journey companies have to undertake (Gratton, 2021). Change management methodology and best practice may facilitate this process. It may be a good idea to redesign tasks and jobs to better fit to the organizational change of remote work and provide proper training to increase productivity and job satisfaction (Sako, 2021).

Probably the most successful approach will be a hybrid set-up of remote teams meeting regularly or according to demand in presence. The benefits of WFA will sustain while a number of negative impacts are mitigated. This is the feedback we got from a number of interviews with job applicants and our team members, also coinciding with research results (Choudhury, 2020) Onboarding of new employees, training and development as well as performance reviews are better facilitated on site. Meeting staff in regular intervals provides the necessary bonding and enhances company loyalty. Assessing the risks of personal encounters during pandemic or endemic situations and taking proper precautions preconditioned, face-to-face contacts are of major importance regarding employee relationship management. We believe that a sound mix of WFA and on-premise work are the future for knowledge

environments. Again, for companies it is not so much a question *if* they embrace this transformation but *how fast* they adapt to this challenge.

6 KIU Research Study

During the first pandemic wave 2020, the Human Resources Research Team at the School of Management of Kutaisi International University, Kutaisi, Republic of Georgia (Marcinkowski/Brandmeier/Nutsubidze/Kavadze) designed a lean questionnaire for an exploratory trend evaluation within domestic (i.e.; Georgian) and international companies. Aim was to get some indications supporting—or opposing—assumptions and possible outcomes of HR related matters that arouse during the crisis. This pilot survey was considered preparatory for a larger, more comprehensive investigation of specific aspects at a later point in time. Here are the preliminary findings of the survey:

The first part of the survey dealt with performance related issues like the individual performance development or group/team performance development. 62.5% of the respondents mentioned a positive development and 37.5% a neutral one, i.e. there was no performance related issue because of remote work. Group performance was 75% positive or neutral, only 25% of interviewees were slightly negative. This indicates that there was a small impact on teamwork performance due to the fact that team members could not be physically present to work together. The next questions touched decisions and the decisions making process. Again 75% of respondents could not see an impediment regarding how employees took decisions, only 25% reported a slightly negative trend. When asked about Teamwork and Team Cohesiveness (how the team spirit got affected by remote work) we received an interesting spread of answers: 12.5% reported a very positive effect of remote work on the team, 50% were positive or at least neutral but 37.5% mentioned a slightly negative impact of remote work. Obviously, this outcome depends a lot on the specific situation within an individual team. Teams with a good team spirit before the crisis could sustain or even improve the team cohesiveness (moving "closer" together during a crisis situation) whereas teams which had already some sort of dysfunctionality before pandemic deteriorated more during the lookdowns. These findings may correlate with the next question related to the identification with the company, team tasks, purpose: 75% were neutral or positive in case of employee identification but 25% of our informants reported a slightly negative trend.

When asked directly about the loyalty to the company (employees' sense of loyalty toward the company) only 12.5% identified a problem, the vast majority did not see any problem here. The loyalty to direct manager (direct reports' loyalty toward individual manager) reflects the same situation, only 12.5% considered this an issue. Again, a possible reason maybe that prior to Cov19 well-established trustful relationships were not impeded by (forced) remote work set-ups whereas a "toxic" work environment did not improve during pandemic.

The next module covered health and work–life-balance related questions. One big issue was the freed-up time due to avoidance of traffic jam, time spent more efficiently but also the longer working hours at the home office because of an inability to switch-off. Although 75% of our participants gave positive feedback, 25% were negative regarding work–life-balance as well as health issues affected. Also, the general well-being (i.e.; physical fitness) was considered slightly negatively by 37.5% of respondents. This coincides with the fact that not everybody had the self-discipline to work-out alone in the apartment or establish a routine of mindful exercises in the home office schedule. Asked about the "fun" of working for the company/organization we found again 25% unhappy people. Grosso modo this does reflect the results from other studies as well. The larger part of our knowledge works found some way or other during the lockdowns to exploit the situation for some positive effects but a quarter of them was not amused.

Another part of the questionnaire covered more general aspects like sustainability, mobility, and digitalization. Sustainability and Digitalization received very positive feedback of the interviewees, no negative answers. The opposite was true for mobility, here 50% reported a negative impact on employees' willingness to move to a new area. This highly correlates with the findings of the research community: as there are no performance issues reported with remote work or WFA, a significant number of employees do not see a good reason to relocate for job's purpose. Therefore, the number of geographical flexible employees (and candidates) is dropping severely.

The last but one segment was dealing with training & development, career development, and international career development. Asked about the (general) training development, our participants were mostly positive or neutral, only a minority (12.5%) complaint. With respect to career development, the situation changed: although 62.5% were neutral in this regard, 37.5% of the participants experienced a negative impact of remote working for their individual career development. Even worse was the effect of remote work on the employee's tendency to pursue an international career. 50% of the respondents emphasized a negative or very negative effect of remote work regarding employees' willingness to actively pursue international careers. Again, this does correlate with the questions related to employees' readiness to move to a new area, relocating for a job, even an international one, has lost much of its attraction.

The last section of our pilot survey covered the future of work. We were interested in how the recent experiment with a pure remote working environment will influence employee's demand for more flexible work arrangements for future working opportunities, 87.5% of our respondents agreed or agreed strongly, only a minority stayed neutral. Nobody denied an impact actively. Our next questions were related to the offering of working remotely in order to attract high-caliber candidates and the answer is a straight YES by 75% of participants and a "maybe" of the remaining 25%. Also, the impact of Cov19 learnings on new organizational designs for companies (adopting shared spaces, flexible offices, WFA, etc.. ..) was primarily well received.

Again, we consider this study a preparatory pilot case for a larger, more comprehensive undertaking but believe, although only a very small sample, to be of indicative value to the reader. The combined results of the answers do indeed support a number of cited arguments and trends.

References

Barrero, J., Bloom, N., & Davis, S. (2021). Why working from home will stick. *National Bureau of Economic Researches (NBER), working paper 28731.* http://www.nber.org/papers/w28731

Choudhury, P. (2020, November/December). *Our work-from-anywhere future*. HBR, 58–67.

Demas, J. (2022). *3ways remote work can remake America*. VoxMedia. https://www.vox.com/22839563/remote-work-climate-change-house-prices-cities

Fayard, A.-L., Weeks, J., & Kahn, M. (2021, March/April). *Designing the hybrid office–From workplace to "culture space"*. HBR, 114–123.

Gratton, L. (2021, May/June). *How to do hybrid right*. HBR, 66–74.

Hamouche, S. (2021). Human resource management and the COVID-19 crisis: Implications, challenges, opportunities, and future organizational directions. *Journal of Management & Organization*, 1–16. https://doi.org/10.1017/jmo.2021.15

Jacobides, M., & Reeves, M. (2020, September/October). *Adapt your business to the new reality*. HBR, 75–81.

Lund, S., Madgavar, A., Manyika, J., & Smit, S. (2020). What's next for remote work: An analysis of 2000 tasks, 800 jobs, and nine countries. *McKinsey Global Institute Publications.*

Maas, S. (2021). New study shows how much more productive a hybrid workforce can be. *National Bureau of Economic Researches (NBER), the NBER Digest.*

MacArthur, H. (2021). *Moving from work from home to working from anywhere: Setting up the future of work for success?* Forbes online.

Mappes-Niediek, N. (2018). *Exodus aus Osteuropa–Die Abwanderung der jungen Generation Exodus aus Osteuropa-Die Abwanderung der jungen Generation\deutschlandfunk.de*.

Molla, R. (2022a). *Remote work isn't the problem. Work is.* VoxMedia. https://www.vox.com/recode/22904758/remote-work-innovation-workload

Molla, R. (2022b). *The great resignation is becoming a great midlife crisis*. Older workers in higher-paid industries are joining the Great Resignation–Vox

Sako, M. (2021). From remote work to working from anywhere. *Communications of the ACM, 64*(4), 20–22.

Sawhney, V. (2021, March/April). *What do we like about WFH?* HBR, 142–143. https://www.forbes.com/sites/hvmacarthur/?sh=1bc86f6f1a90

Schawbel, D. (2021). *Is nomadic work the future of remote work?* Workplace intelligence weekly.

Tanner, A. (2015). Heimarbeit. *Historisches Lexikon der Schweiz (HLS)*. https://hls-dhs-dss.ch/de/articles/016213/2015-03-09/

Toffler, A. (1980). *The third wave*. Bantam Books.

Waters-Lynch, J. (2020). *50 years of bold predictions about remote work: It isn't all about technology*. https://theconversation.com/50-years-of-bold-predictions-about-remote-work-it-isnt-all-about-technology-135034

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Cultural Work and Cultural Management in the Digital Post-Pandemic Change of Time: Opportunities, Risks, and Challenges in the Context of the Fourth Industrial Revolution

Christian Toulali and Rupert A. Brandmeier

1 Introduction

> Progress in science and technology does not improve people's morale. Jean-Jaques Rousseau

The fourth industrial revolution with the rapidly advancing digitalization is on everyone's lips and, according to Klaus Schwab (2018), Chairman of the World Economic Forum and author of the book "The Future of the 4th Industrial Revolution," will "change everything." Not only how the economy works, how people interact, even what it means to be a human being, is currently and even more so in the coming years, put to the test.

The digital optimization of life context through total digitalization has been proclaimed: Digitalization in administration, healthcare, culture and education, energy as well as transport and traffic, all areas with human–machine interfaces are involved. Today, humans are already an interface to the Internet via smart phone and soon perhaps by implanted chip.

The article would like to raise awareness of this topic and, with regard to the field of cultural management, outline how the digital transformation is happening and what opportunities are ahead of us. It is obvious that with the rapid pace at which change is taking place, the consideration of the associated threads is neglected. An examination of the risks and the consequences is also morally obligatory from the point of view of the current scientific discussion (Gabriel, 2021).

This raises the question of what content digitalization encompasses at all and to what extent it can be combined with the soul- and earth-shattering power of theater

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and music, which is intimately linked to the inherent need in people to listen to and watch story tales.

What are the effects, opportunities, and risks of digitalization for cultural work and cultural management?

How much *spirit* from the "old" cultural world will remain as a result of digital progress?

And to what extent do digital solutions such as streaming services, pandemic-related lockdowns, and closures of theaters do justice to the live cultural event? Can streaming services possibly replace live experiences altogether?

These questions are of overriding interest and need to be discussed.

What exactly is the chance of a *Great Reset* after the pandemic remains rather superficial in Schwab's remarks. The explanations were limited to technical scientific aspects. The unstoppable trend toward digitalization and standardization can be heard clearly and emphatically. In particular, biotechnology and the technological aspects in the field of *"man and machine"* are the focus of Schwab's consideration. The desired goal is the end of "zero-sum thinking," according to Schwab. In economic cycles, a winner should no longer face a loser as before, but everyone should win equally as a result of digitalization and networking.

Ethical questions and psychological effects are far too neglected and corresponding answers must be kept in view more than ever and the dangers of a dehumanized world through digitalization must be examined more thoroughly. Therefore, the authors of this essay plead for an interdisciplinary approach to the topic with participation of lawyers, philosophers, psychologists, and business economists, when considering advantages and disadvantages and argue that with the advancing digitalization and the associated AI, we may produce something that reduces the primordial human in us, if we do not put it back center-stage, what distinguishes man as a *zoon politikon*, as a social and political animal/ being: the ability to think about oneself, to empathize and to engage authentically with one's counterpart and to enter into conversations with oneself and others in direct physical contact, at best with the result of entering into mutual beneficial relationships.

What better place for this than the theater stage itself? Perhaps in a thoroughly digitized world, the theater will again become more important in people's consciousness and become—again—a central place of human encounter. The theaters, museums, and concert halls are places of cosmopolitan encounter, visualization, and remembrance par excellence. Especially in the theaters and museums of this world, beauty is brought into focus of culture and art, whether visual or performing, whether literature, dance, or music theater: these places of remembrance have always been the fields of activity of this specifically human activity.

2   A Look into the Past: Culture and Theater in Antiquity

At the heart of Greek antiquity was the theater from which philosophy developed. Arenas with thousands of seats shaped the cultural life (Meier, 1993).

Depicting, expressing, developing, visualizing, and anticipating how human behavior influences social conditions and produces entanglements has always been a matter for theater and art, besides ethics, which is philosophically dedicated to the topic.

In theater and music theater, the human being with his life entanglements and hubris, usually ending in disaster, is the focus of observation in all his mysteriousness. Especially the Greek drama or the music theater by Richard Wagner demonstrate to the spectator the interconnections of human conflicts (see also Christian Meier in "Athens—a new beginning of world history," in which Meier shows on p. 369 ff. on the basis of the "Oresteia" by Aeschylus that the riddle of Oresteia "in a certain sense illustrates the riddle of Athens").

In the theater, the audience experiences together with the protagonist this alternating bath of feelings, the inner and outer conflicts of the acting persons, the entanglements and fears and purifies himself in the identification with the heroes (Aristotle/Poetics).

Theater was not a marginal phenomenon in the fifth century BC. Theater was the heart of the polis. Meier writes about this in his standard work "Athens" on page 373 ff. *"Shouldn't one expect a strong harmony of citizenship and poet? After all, the people of Athens were awake, nervous, constantly occupied with important decisions that did not fit into any routine. And it still had the claim to understand and classify in contexts what it did and what happened."*

To what extent this 2500-year-old commission of the theater, which had the task in the heart of the Polis to depict what moves and occupies people, will still be valid in a postmodern, transhuman and possibly post-democratic, digital world remains open. Or will digitalization at all and for the first time make a globally more humane and democratic world possible in the first place?

Digitalization is also rapidly gaining momentum in the visual arts and culture sector. The consequences already taking place in the cultural, museum, music, and theater industries in the overarching context of this 4th (digital) revolution are remarkable.

The possibility of diving into a three-dimensional digital parallel world using VR glasses (virtual reality) and digital *Doppelgänger* could soon become a matter of course. The idea of a virtual "*meta*" world, which merges all existing virtual areas from gaming to Facebook to Instagram etc., into a single virtual environment, with different entrance gates and areas, appears fascinating. But aren't we also opening the gateway to hell, where addictiveness, licentiousness, violence and greed prevail and human closeness and social warmth are lost? And isn't that exactly the appeal of the new digital world? What about appropriate control mechanisms? Already today, people around the world are experiencing a wide range of experiences in the three-dimensional virtual game world and in the three-dimensional spaces of the Internet. In the future, we will be able to experiment even more than digital identities and playfully develop completely new theatrical formats. The fact of today is that the Internet opens up access to information and knowledge on an unprecedented scale with many advantages. The consumer of cultural events can prepare herself and tune

in prior to an upcoming cultural event on the Internet with its many platforms and applications.

What used to be laboriously worked out in the Brockhaus or other specialist encyclopedias is now available promptly and retrievable via voice command to *Siri:*

Interviews, trailers, podcasts, specialist articles, and audio features are easily accessible.

3   Can Virtual Reality (VR), Augmented Reality (AR), or Mixed Reality (MR) Replace or Adequately Substitute Life Theater Experiences?

> The future of theater is the theater of things. Actors will play with robots and autonomous objects. Peter Weibel, Director of the Center for Art and Media, Karlsruhe.

Even today, the *smart phone* functions as a disembodied umbilical cord that gives us access to the digital world.

What is already "state of the art" for pilots in aviation can also be used in the cultural sector at theater or music theater performances.

Naturally, from a staging point of view, many possibilities open up, if we think, for example, of the use of digital aids and playing android robots. 3-D glasses, for example, could also be handed out to the viewer as part of the production before the start of the performance in order to further enhance their viewing and listening experience. Glasses, implants, or even just a glance at "Wikipedia" in the *smart phone* during the performance can import information or cross-references that give her an increase in knowledge, a better understanding through background information, historical facts of the plot, which allow her to better understand the cultural event. Digitalization is able to optimize humans, in the spirit of Max More, who already in 1996 held the view that humans "*can climb higher peaks if we use our intelligence, our determination and our optimism to pierce the human doll. Evolution, despite our efforts, has guided our behavior in certain directions that are incorporated into our brains. Our bodies and brains limit our capacities.*" (Max More: "from biological man to posthuman being" in Telepolis of July 17, 1996).

Access to a virtual theater performance at a live performance may also be made possible by VR (virtual reality) glasses from anywhere in the world. Completely new theater formats and a new theater clientele could be won in this way. These technical achievements could possibly revolutionize the world of theater and the production of theater and musical theater, similar to how the visual arts reinvented themselves in their *raison d'être* at the end of the nineteenth century with the invention of the camera. Until then, it was the task of art to "imitate nature." Painting was historically naturalistic with the aim of depicting nature as realistically as possible. The invention of the camera renders this commission obsolete: the birth of modern painting was heralded, with a radical artistic development. Video performances are now

recognized collector's items in the visual arts scene, which was highly questionable 40 years ago whether this could be taken seriously as a visual art at all.

Analogous to the camera, the digitalization of the theater experience itself, where, for example, the viewer himself is integrated into a virtual (virtual reality), mixed (mixt reality), or extended virtuality (augmented reality) within the theater event on the basis of technical aids and digitalization becomes part of a directing concept, could become normality. The associated claim would be to open up new artistic options and increase the entertainment value.

It is already technically feasible to connect the physical constitution of the human being via communication interfaces to the digital world, thus expand the possibilities of perception.

The common term *cyborg* describes such a hybrid of biological body and machine, which are optimized by implants. In medicine, such implants are already successfully used in the brain during strokes with amazing effects. Failures of entire parts of the brain can thus be compensated. The ethical and psychological effects of these changes on humans have hardly been investigated so far. One of those who has recently dealt intensively with this topic is the historian and futurologist Yuval Noah Harari.

In his book "Homo deus" (2017) in the chapter "The Gods of Planet Earth" he comes to the following conclusion: *"With their pursuit of happiness and immortality, people are actually trying to rise to gods. Not only because both are divine qualities, but because if people want to overcome old age and misery, they must first gain godlike control over their own biological underpinnings... Until now, more human power has been largely based on the improvement of our external tools. In the future, it may mean developing the human body and mind or merging them directly with our tools. The up-grading of humans to gods can be done in three ways: through biotechnology, through cyborg technology, and by creating non-organic living beings."* (page 64, Homo deus, Hatari).

Digitalization in the theater and cultural sector opens up opportunities at various levels:

1. Abandoning of the physical theater location and transmission of the theater performance or concert via the network through virtual possibilities—streaming into the living room or via platforms where new theater formats are created
2. Use of digitalization as a tool to expand the physical visual and auditory experience during the theater event on site or independently of the theater location in a three-dimensional parallel digital "meta" world using VR tools
3. Use of digitalization as an artistic tool for staging a theater experience using digital tools
4. Use of digitalization beyond the artistic theater event for marketing, more effective management and monetization of all stakeholders involved in the theater process

Naturally, all areas of application can be linked together and, in the end, a value chain can be established that opens up undreamt-of earnings opportunities.

4 Plea for the Unfiltered: Physical Real—Theater and Sound Experience

Whether theater experience, museum, or concert visit: 2 years after the beginning of the pandemic, the doors are open again, even if restrictions and protective measures still have to be adhered to here and there.

As a sensual spiritual being, man is existentially bound in his perception of reality to the three-dimensional space for a deeply felt experience of happiness. Accordingly, the preparatory rite associated with the theater visit reveals the cultural significance of the event. The choice of the right wardrobe, matching accessories, polished shoes as well as familiarization content discussion require tight time management in order to be able to experience the event with dignity and time. By entering the threshold to the concert hall, festival or theater house, the visitor brushes off the mundane everyday life. See and be seen, stroll in charming company, give free rein to idleness, enjoy a drink at the theater bar, the joyful excitement, until the moment when the shrill sound of the theater bells announces the timely start of the performance. With the subsequent entry into the theater hall, the visitor overcomes a second threshold: once at his seat, he looks into the illuminated stage area, the view opens up for the entire hall. The stage curtain, depending on the mise-en-scène, hides the stage or allows a first glance of the scenery. Different timbers and playing motifs of the musicians emerge from the orchestra pit. The attunement to the chamber tone *a*, then the performance of the conductor. With the opening of the curtain and the darkening of the theater hall, the access to the third threshold begins: the visual comparison of the distance to the stage, the perception of the light effects and the associated shadows and forms, the appearance of the performers in the different costumes, providing hints about characters without them having said, danced or sung a word until then. Finally, the sound of the music. Sensually and beguilingly flowing through the acoustic meatus, touching the human being in his essential disposition, transferring him into a supernatural world beyond death.

In his lecture "on musical phenomenology" held in 1985, published by Tryptichon Literaturverlag 2001, p. 56, the great Romanian conductor Sergiu Celibidache (1912–1996), who later took German citizenship and, as General Music Director, shaped the Munich Philharmonic from 1979 until his death into one of the best orchestras in the world, expressed his opinion regarding sound recordings: *"Nothing!"*

Already during his lifetime, he provocatively asked in one of his lectures the question "since when humanity has deteriorated musically" and answers himself: "since there have been (digital) music recordings".

He justifies this musical decline with the fact that the immediate and unfiltered sound is the condition for musical experience: *"With a small piece like "Ma mère l'Oye" by Ravel, we strive for an incredibly differentiated bow guidance so that overtones are created four octaves higher. If they arise, I hear them, I need a little more time in physical time to make it a unity. If you do not hear these higher octaves due to your inability, the tempo will seem much too slow for you. My tempos,*

recorded in variations in the physical (in-sito) room, or recognized by me - when I hear them on the recording, they seem a third too slow. Why? Because the microphone cannot perceive a third of it. I saw Furtwängler in London when, after recording a Wagner piece, he said: "For God's sake, these are not my tempos! I never conducted so slowly!"

From this quote it becomes clear that the digitized recording, which was still made as a CD (Compact Disc Digital Audio) at the end of the twentieth century, did not allow an adequate listening experience from an artistic point of view, but distorted the actual music experience.

Wouldn't this be exactly an example to optimize or at least compensate for the human deficit of hearing failure through digital aids, for example in the form of implants, with today's advanced technical possibilities? Not from our conviction and perception of reality, because ultimately the visit to a theater performance is more than the sum of its parts: Theater rooms, orchestra halls, opera stages, museums resemble sacred places, where man as a sensual spiritual being experiences himself, nourishes himself spiritually, and strengthens himself with stories and images. Every performer and musician knows about the magic and the power on stage or in the orchestra pit before the start of the performance and every visual artist wishes that one or more of his works would survive him in a place of remembrance and be open to the public.

The rising of the curtain or entering a museum opens up the viewer's view of the spectacle beyond the mundane. All senses are tense and alert. Unlike in everyday life, where people are trapped in their busyness and usually function like automaton, the theater (and also a visit to a museum) requires their full attention and concentration both from the audience and from the theater creators themselves.

Especially in music theater, sounds are produced by people by means of musical instruments, which, in interplay and competition with other sounds and rhythms, guided by a conductor, convey a composition that at the end of the evening in the best case moved the audience. Dance theater is able to tell stories wordlessly that transcend the world of letters. The opera as a total art note consisting of stage design, costume, and acting or singing creates a synaesthetic experience that appeals to all senses directly and unfiltered. A theatrical event has a cultic character because, as Peter Brook writes, theater is *"a place where the invisible can appear"* (Peter Brook, 2004, 53 ff.).

Precisely because good (music) theater as an initial experience can inspire and inspire so much, many visitors always come back to the place of the mystical first experience. A "fan" and later subscriber is born who, as in an initiation that at the same time resembles a rebirth, repeats this rebirth with each visit to the theater, which leads to the fact that the person initiated into the cultural experience wants to see and hear it over and over again.

The enjoyment grows directly proportionally with the examination of the content. The theater enthusiast deals with the history of origin and material, studies biographies of the performing artists from the director to the stage designer to the conductor or artistic director of his preferred theater house. Over time, the *novice* theater enthusiast develops into an expert who also deals with his new passion after the

performance, almost around the clock. With the awakening passion, the next steps are pre-programmed: usually the acquisition of music recordings takes place. Today increasingly in digital form at *spotify* or with collectors as a CD and formerly as a record.

The digital networking with the *Theaterhaus* via the Internet, with the artist, the conductor or visual artist follows, because the newly born lover wants to refresh his revival experience as often and close as possible.

Naturally, the cultural scene and its artists need the spectators to survive. They are the mainstay of stakeholders and the foundation for economic survival. Without the audience, everything would be nothing, even if the theatrical event could take place without them. The actor plays mainly for the audience. His reward is the applause he needs like the air to breathe. Will the digital parallel *meta* world be able to produce this degree of intensity of a physical cultural experience?

In order to illustrate the topic of digitalization more clearly in the context of cultural management, the five central pillars of digitalization are now briefly presented.

5 The Five Pillars of Digitalization Applied to Cultural Management

Answering the question of what digitalization and artificial intelligence are in contrast to each other creates a better understanding of digitalization in general and in cultural management in particular.

5.1 Big Data

is the prerequisite of everything when we talk about digitalization. It is the data that is disclosed by the users themselves by surfing the net and by the respective applications. "Big Data" is multiplying every day due to the constantly growing volume of data generated by smartphones, PCs, laptops, and other digital *devices* of the world's population.

The data is produced through the interactions between humans and devices in real time. The digital traces that users leave behind via apps, clicks, or comments, e.g., on the social media platforms, allow conclusions to be drawn with regard to interests, needs, and preferences such as purchasing behavior or even conclusions based on the question, we enter via the search engine on Google. The surfing behavior provides clues and data on how an individual "ticks." His preferences, interests, age, gender, and inclinations can be identified and thus precise profiles can be created.

The more data is collected (which is naturally stored by the tech companies using new technologies), the more accurately the behavior of each individual can be

derived. On the basis of this data, predictions can be made by the so-called algorithms, which are nothing more than programs that function like rules of action and that contribute to the solution of questions or specific challenges and provide the user with recommendations for action in a short time.

In general, natural intelligence is understood in such a way that an intelligent being can solve complex tasks as quickly as possible. In this sense, artificial intelligence is actually to be regarded as intelligent and possibly more "intelligent" than humans when it comes to finding prompt solutions to a problem. A chess computer, for example, can think ahead of complex moves and decide difficult game situations much faster than a human.

Can these results through big data also be advantageous and used in the cultural sector and in cultural work and help to show which services and offers work well due to the evaluation of a lot of data and create added value for the consumer? From our assessment, certainly yes! Just as many processes are already being streamlined and simplified in (public) administrative processes, many new opportunities will also arise in the cultural sector regarding public relations, marketing, business administration, and theater production. Artificial intelligence is considered a major prerequisite for this to happen.

5.2   Artificial Intelligence

With the help of AI, it is possible to gain certain insights by processing large amounts of data to improve administrative action. The aim of creating AI is to program computers in such a way that they give recommendations for action for specific tasks or questions that can solve problems faster and better than humans. Faster processing of large amounts of data with more effective recommendations for action should be the result. Computers can thus make decisions and, for example, record and process visual and auditory information and derive conclusions and make forecasts. Instead of a receptionist at the entrance to the opera, it would be conceivable in the future that an android robot with the help of a camera and sensors uses a digital ID to measure biometric data such as temperature and disease symptoms of the theatergoer, prohibiting access in order to reduce the risk of infections for others. In a number of countries, this biometric procedure is already in use (leaving the topic of the legal requirements with regard to data protection, privacy rights, etc. out of this discussion).

The AI interacts with humans and machines and improves their problem-solving skills with every interaction. The work that humans have done so far (e.g., admission staff) could be completely delegated to the AI or at least used as an aid in decision-making.

From the authors' point of view, this reveals the fundamental question that needs to be considered: do we humans want to create an AI that leads to moral decisions through "moral machines"? Do we really want a digital world in which people hand over their moral responsibility to a machine for important decisions, for example

when it comes to deciding on the admission or exclusion of a person at a cultural event or when it comes to the question of who gets which subscription for the next season?

The question also arises as to whether a borderline area has not been reached here which must be categorically rejected from an ethical perspective. After all, wouldn't it be immoral in itself to hand over moral decisions to machines? Wouldn't man thus deprive himself of his original purpose of existence and dignity, provided that according to maintain our image of man that has existed since the Renaissance, which is characterized by self-determination and freedom? (Picco della Mirandola, *Speech on human dignity*).

As long as people remain autonomous in their decisions and as long as a contribution to a successful and meaningful life is guaranteed, data protection regulations are complied with digital progress and the integration of digital systems in the sense of reducing bureaucracy is very much to be welcomed. And with regard to the economic usability that digitalization also results in the cultural sector, many profitable opportunities open up: a theater platform controlled by algorithms can show and recommend certain opera or interest areas to the user due to his behavior in the past, which the theater lover himself may not even have known. Appropriate tailor-made information included.

Streaming services such as *netflix* or *spotify* already work according to this principle. The more a user uses the platforms, the more the AI learns about his behavior and learns and adapts his offer. Accordingly, the platform predicts better and better what preferences and interests the user has and recommends corresponding products or services. This machine learning capability is increasingly evolving with the performance of computers.

5.3   Machine Learning

In combination with the second pillar—AI—machine learning is the third fundamental component of digitalization. Machine learning enables computers to teach themselves to learn and execute commands. Devices like *Siri*, *Alexa,* or *googlehome* are able to hear, process, and implement such voice commands. The more frequently the user uses these devices, the faster the devices learn.

5.4   Collective Intelligence

Due to the increasing interaction between "man and machine" worldwide, networks and interacting groups are created that can solve a problem or innovation through the interaction of the network partners. This interaction of network partners is called collective intelligence. This results in the opportunity to involve a large number of users in certain questions or problems. The solutions that result from the

involvement of many are called "swarm intelligence." It can help to democratically identify and improve environmental and life contexts, to reach decision-making collectively in the different areas of life, which in itself would speak against the concern of entering a post-democratic age with digitalization. Swarm intelligence could also be used accordingly in the field of cultural management. For example, in the announcement and filling of artistic director positions, the filling of role and directorial tenders, as well as in discussion forums on relevant topics and for decision-making in general that determine cultural life. Why not, for example, invite subscribers to create the new schedule and use swarm intelligence to determine which pieces or composers fit best into the repertoire with regard to social issues and events?

5.5 Blockchain Technology

Also known as "distributed ledger technology" is a procedure in which data on user identity and transaction can be stored more securely and at the same time more transparently. This is done not only in one database, but also with a large number of identical databases, each hosted and maintained by the other network partners. When changes are made to a database, all other databases are simultaneously adjusted so that deviations can be traced transparently and historically to the source.

Especially in the cultural sector, the use of blockchain technology could be exploited profitably. Information, documents, and documents of the individual theatergoers/users could be unmistakably stored and managed in such databases: for example, subscriptions, the number of previous theater visits, culinary preferences during the break, which drink or sandwich the subscriber prefers, who his favorite conductors, actors, singers, and dancers are, which composers he prefers, etc. Here, too, the result would be more effective, service-oriented, and tailor-made administrative and public relations work for the benefit of paying viewers.

6 The Digital Transformation of Marketing and Sponsoring in the Cultural Sector on the Basis of Innovative Blockchain Technology as the Basis and Idea for a Business Model: A Daring Look into the Future

A blockchain-based digital ecosystem for cultural events would make it possible to link the digital cultural experience with the real cultural experience.

In the form of a *distributed ledger*, the blockchain enables digital contracts between two or more actors to be created and distributed anonymously or transparently, without the need for a trustworthy intermediary position.

Interactions on the net, for example the *likes* that a user gives on a platform, enhance the value of a person or institution that gets the *like*, but not reciprocal the *like*-giver.

Blockchain technology could make transactions valuable, trustworthy, and transparent for all parties in the future, because, for example, finalized contracts cannot be changed retroactively.

The so-called *smart contracts* could be designed in a way that information can be automatically transmitted under any given conditions or monetary distributions can take place when certain events occur.

It would be conceivable that using these blockchains, music, theater, and opera enthusiasts who already follow the opera houses, theaters, and individual artists as followers on the "social media" platforms such as *Facebook* and *Instagram* could be won as individually paying supporters and beneficiaries—either of a specific house or an individual artist—by means of the distribution of tokens as sponsors. In cultural management, sponsorship money refers to money, material, or general service contributions from a company or an individual to a cultural enterprise, compensated for by the cultural sector in the form of PR and advertising. These considerations can be, for example, the placement of the company logo in program booklets, mailings, on the website or on the printed materials and much more. Performance and consideration must be precisely defined and appropriate contracts put together. Which consideration a *like* or the decision to appear as a follower has not yet been precisely defined. The fact is that the *like*-giver has not yet received any measurable value, except that he outs himself as a culture lover within his network with the *like* and positions his image in this way. The cultural business or artist definitely benefits because it increases its visibility and thus his market value. This raises the question of how valuable the *like* of the *like*-giver is to be classified in the sense of a performance gift and what equivalent value the *like*-giver could get for it. In the case of current sponsor concepts in the cultural landscape, a commercial enterprise usually provides financial resources as a sponsor on the basis of a contract and receives advertising from the cultural enterprise on various print media or on the websites. "Coinbase" defines tokens as another term for cryptocurrency or crypto asset with a variety of potential features. With the distribution of the tokens, the followers or *like*-givers could in turn give something back as supporters and naturally acquire *rights* or *company shares* through the digital financial support of *their* theater, *their* opera house, *their* artist or artist and participate in *their* success.

A blockchain platform could thus enable a community of enthusiasts to use cryptocurrency to digitally acquire token-based shares in opera houses, theaters, possibly individual artists and to support them through capital inflows. This underlines the supporter's binding loyalty to his house, his artist and makes him visible as a sponsor. The high willingness to identify is expressed and a profitable basis for the supporter's heart is created. The idealistic values of loyalty and the psychological benefit of the fan characteristics are also opened up measurable advantages such as distributions of a material nature (ownership rights) or privileges (e.g., box seat in the theater, golden chair with engraving of the name, distribution of a bonus if he buys a ticket again), etc. depending on the amount of the investment. After all, many

opera and theater lovers want nothing more than to deepen a relationship with their star that already exists on a social media platform and to bring one or the other *like* to a more personal higher level through a dinner together or a café drink. Every opera star knows how important *groupies* are for their success. Just as Mozart already had groupies in his time, the stars of today have enormous increases in market value through digitalization and social media. Today's groupie accompanies his star on tours, travels to him, is enthusiastic about his artistic work, deals with his life, and ideally dreams of merging completely with his idol. In a future digitized *meta* world, the opera lover could then meet with his star *avatar* using virtual reality. Due to the high number of followers, a personal meeting would hardly be logistically feasible.

The avatar is the digital doppelgänger with all the characteristics and characteristics of the natural person of the star in the metaverse, who behaves, moves, and feels exactly like this one. In this way, dates could become possible in a parallel 3-D world. According to many experts, such a scenario is not far away. Considerable economic returns could be achieved if such token-based interactions came about via a blockchain platform and brought together followers with artists and opera, theater houses who take the opportunity to network profitably with their fans in the 3-D space and monetize the encounters. In other words, any player, no matter how small, can participate one-to-one in the infinite global virtual market as a sponsor, producer, shareholder and, conversely, as the beneficiary or consumer of an asset, provided that he allows the fusion between the traditional and digital worlds.

Only with the announcement of his data and his status as a fan on the basis of a smart contract does he create the basis for the success of a particular artist or house where the artist performs. The blockchain enables the fan, so the vision, the values generated by the provided data, to get back a part of it or at least to be able to track what happens to his data. In this way, it could be possible to reduce the chronic need for subsidies in classical culture—one of the main challenges in the (European) cultural sector—and to build a perfect match or bridge between the digitized world of culture and the real world of events. The core idea is clear: *win–win–win* create constellations in the sense of Schwab, to let all stakeholders involved in the marketing process, from fans to cultural managers, participate in the revenue chain.

In summary, the artist needs his fan base as well as the air to breathe, as well as the operas and theaters. Often the supporters fall by the wayside, even if they form the foundation of success and in the end, they usually go out financially empty-handed. No theater ticket, no profit sharing in marketing revenues, no personal appreciation. With blockchain technology and the possibility of acquiring *shares*, the supporter does participate economically.

The leitmotif Opera For All could be pragmatically implemented with a concept like this and the democratization process of *high* culture could be advanced.

The supporter, fan, theater and music lover benefits appropriately—even in those moments when he cannot be on site and close to his house, his artist. By purchasing digital tokens, the fan can express his loyalty and willingness to support around the clock, even if the concert or performance does not take place and may meet his star in the *metaverse space*. And in times when real cultural experiences cannot take place due to pandemics or restrictions, the Houses and artists still generate revenue.

7 Fears and Concerns in Dealing with Digitalization

The fears that people repeatedly address in connection with advancing digitalization are obvious: will there ever be a time when the programs created by humans will become virtually independent? Will it be possible for machines themselves to write programs that are better than those written by humans and that we can no longer understand?

This potential danger of destruction by AI was already addressed in Stanley Kubrick's award-winning film 2001, A Space Odyssey: on board the spaceship *Discovery One* is the supercomputer HAL 9000, which can control the spacecraft independently using AI. In contrast to the rest of the passengers on board, the computer knows about the actual objective of the mission. At a critical moment in the film, the time comes: HAL makes moral decisions independently as a machine and thus puts the crew in danger. The film illustrates the ability of AI, which consists in finding out how individuals think, or rather, according to which pattern a human think.

In the midst of the fourth Industrial Revolution in which we are currently moving, the hope resonates that the global digitalization process can avoid mistakes of previous revolutions and that we are able to solve problems in a more humane way. The counterpart to the vision of *smart* cities could be. The foundation of this technique is the algorithm as a guarantor for the controllability and predictability of disorder and decay and the possibility to calculate everything and to control it through networks.

It is obvious that in these networks between senders and receivers it is less about processing the received information as information and, in an act of reflection, interpreting the information, i.e. obtaining information from the information.

Dieter Mersch writes about this in his essay *"ordo ab chao/order from noise"* (2013, p. 25 ff.) critical *"Their goal (of digitalization) is therefore not the meaning, but the perpetuation of their circulation. It is therefore not a question of saying something, contesting dissent or producing, exchanging or criticizing knowledge, but of forcing those processualities whose technoid image is a tube communicating with itself."*

This is precisely where one of the greatest dangers lies from the authors' point of view: the elimination of thinking by the algorithms of AI. It reduces man as a soulless and alien being. Man is constituted by nature through thinking, which in the thought-provoking self-reference and in the bringing to itself of thoughtless thoughts is always also related to the world or as Markus Gabriel puts it, *who recognizes in human thought a self-talk of the soul with itself,* from which we create society. Therefore, in the advancing digitalization, he demands to become aware of the sense of thought again, to learn thinking again, which with Aristotle consists in bringing together the various sensory modalities consisting of hearing, seeing, smelling, touching, tasting and the sixth sense, intuition, and thus enabling us to come into harmony with the universe and to think beyond the present.

In particular, the younger generation, who fall asleep with their mobile phones in their hands, runs the risk of being underchallenged intellectually in the course of digital propaganda, because we as social beings give up on ourselves and dedicate ourselves to AI, which increasingly determines our actions. The fact that the legal status also takes a back seat when machines make decisions is accepted as a reality in some countries. The dehumanization of humans is driven by digitalization. Humans are virtually exploited by the disclosure of their data by the AI, which feeds on it. To rely only on technology and science deforms the human being, who is more than technology and science. As a living being, man is primarily aware of his transience and can distinguish death from life and find his way around and orient himself in the here and now. From this consciousness man acts and is able to shape himself and his future, because he is able to talk about the same thing and thus communicate in a world that is in the process of permanent emergence and in which there are true and false thoughts.

8 Conclusion

Digitalization opens up opportunities when it comes to accelerating processes, simplifying administrative action, and exploiting interactions economically. This also requires the inclusion of legal aspects and ethical considerations. The ethical perspective focuses on what leads to a successful life context and reflects what is morally justifiable and compatible with the dignity of the human being. As a cultural being, man carries the idea of immortality within himself and knows about his death as an intermediate thing between poverty and wealth and strives to improve his life contexts by nature and to grow beyond himself. The authors' point of view is also about using the new digital technologies responsibly for people and not against them.

As long as technology and digitalization serve people and promote their prosperity and happiness in living together with natural resources, it is good and to be advocated.

Today, cultural enterprises are (in many European countries) non-profit institutions which, from the authors' point of view and based on a positive image of man, have the task of enhancing, inspiring, refining, thinking, entertaining, and pointing out transience to people.

Furthermore, the cultural enterprises have the task of presenting and cultivating proven traditional values, cultural and philosophical achievements, both in their tragedy and on a comic scale, and to deal with, defend and uphold the questions of humanity that have accompanied it since prehistoric times.

Naturally, cultural enterprises also participate in economic life as commercial enterprises with income and expenses. Thus, they are faced with a double challenge: on the one hand, to meet the artistic demands in the best possible way and thus to win over a paying audience.

On the other hand, the challenge of procuring their own production factors such as manpower, artistic works, operating resources on the market and marketing them to an audience as a service provider in competition with other institutions.

This dual nature entails conflicts, which are based on the fact that, on the one hand, an artistically qualitative value system must be combined with an economically economic value system.

From the authors' point of view, it is precisely here that great opportunities are revealed by the blockchain models mentioned above and by the digitalization of processes from the procurement of means of production to the sales market via consumers in the form of software-controlled applications.

In the production of culturally relevant achievements in daily business, an unbalanced relationship between the use of resources and artistic production can be doomed to failure, which leads to great financial damage.

Through smart digitally controlled administrative action, the efficiency, i.e. the ratio of the expenses to the artistic result, can be improved in such a way that cultural enterprises as well as commercial enterprises can generate profits in the future and do without the elaborate subsidies. The resources gained could then be used for social purposes, for example.

Even if today the artistic quality and performance on behalf of a public interest is still in the foreground of the cultural enterprises and here lies the primary corporate goal, *it will become increasingly important in the future to include the environment in the entrepreneurial decisions, to develop goals, to implement them consistently, to continuously review their objectives and thus also constantly new answers to a constantly and accelerating changing Environment in all tasks and areas of the cultural institution.* (Steirer et al., 2003).

In everything that concerns administrative action, from the foundation of the association or GmbH to the drafting of contracts, subscription management and commercial accounting: digitalization will open up advantages here.

When it comes to the question of how man feels about himself and his fellow human beings, he remains thrown back on himself. From the authors' point of view, giving up these questions would not be expedient, irreversible, and would result in the abolition of the human.

The prerequisite for this not to happen is that we turn more to thinking and feeling again and learn again what it means to think. Culture and theater, philosophy and ethics as a sub-discipline, can help us with this. If we do not do this and fall into the belief that only technology and science will solve our problems, we will deprive ourselves of our human dignity and degrade ourselves to digital slaves.

The cultural sites of this world open up access to thinking, especially the theater, because they activate the various six human sensory modalities such as seeing, hearing, smelling, feeling, groping, and activating intuition as the embodiment of all five senses, thus vertically overcoming the vile bustle of everyday life.

In this sense: may digitalization succeed.

References

Brook, P. (2004). *Der leere Raum*. Alexander Verlag.

Celibidache, S. (2001). *Über musikalische Phänomenologie*. Triptychon.

Gabriel, M. (2021). *Moralischer Fortschritt in dunklen Zeiten*. Ullstein Buchverlage.

Harari, Y. N. (2017). *Homo deus: eine Geschichte von Morgen*. CH Beck.

Meier, C. (1993). *Athen: Ein Neubeginn der Weltgeschichte*. Siedler.

Mersch, D. (2013). *Ordo ab chao-Order from Noise*. Diaphanes.

More, M. (1996). Vom biologischen Menschen zum posthumanen Wesen. *Telepolis, 17*(07), 1996.

Schwab, K. (2018). *Die Zukunft der Vierten Industriellen Revolution*. DVA.

Steirer, W., Moser, S., & Matt, G. (2003). *Kulturmanagement leicht gemacht*. Der kurze Weg zum Profi.

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Part III
Conclusion and Implications for Policy Makers

The Potential of the Digital Economy for Economic Development: The Case of Georgia

Martin Leroch and Steffen Sirries

1   Introduction

The evolution of the digital economy is associated with many economic opportunities. First and foremost, digitalization reduces costs on many levels, such as production costs, costs of information, or shoe-leather costs when payments need not be made in cash. But potential benefits exceed the domain of costs. The data it generates can, for instance, be used to solve societal problems or enhance economic development.

These opportunities obviously transcend to individual markets. For instance, firms' offers become more transparent and comparable by online comparison websites. Products may be easier to customize by allowing customers to influence the design or make of their specific product. Also, coming back to costs, the use of algorithms may make production more cost efficient, for instance by streamlining logistics. It has also been argued that digitalization lowers the barriers to entry, such that an increased number of firms operate in the market, thus leading to increased competition and innovation (see OECD, 2015, 2016a, 2016b, 2016c). Finally, dynamic pricing algorithms as employed by, for instance, Uber or Lyft, may help

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allocate scarce resources to their best uses in almost no time (see Hall et al., 2015 for the case of Uber).[1]

Despite these advantages, it is not straightforward that digitalization may on the whole also profit the overall economy. Algorithms make analysts (partly) redundant, competitive pressure may lead to layoffs, and new industries may drive older ones out of business. Despite these common threats, there is evidence that indeed digitalization may benefit economies as a whole. Particularly, though obviously not exclusively, less developed countries may benefit. As the World Bank has found already in 2010, "[i]n India, the Philippines, and Ireland, for example, the industry has created jobs, raised incomes, and increased exports and GDP" (Sudan et al., 2010, p. 5). For these countries, digitalization offered an opportunity to leap-frog development stages involving industrialization or compensated the loss of important analogue industries. However, success in such a process is not guaranteed. Rai and Kurnia (2018), for instance, found that Bhutan's ICT industry does not show the growth rates hoped for, despite its prioritization.

One may think that small countries face an initial disadvantage inasmuch as they can only offer markets of very limited size. However, the size of a country is not necessarily a hurdle in the digital economy. As Sudan et al. (2010, p. 20) find: "The examples of Ireland, Mauritius, and Malta suggest that size is not a binding constraint in the potential for countries to benefit from global IT services and ITES opportunities. Small countries can address specific niches, leveraging language skills as in the case of Malta; building on historical and cultural ties as in Mauritius; using advantages such as a high-quality living environment as in Singapore; or exploiting membership in a customs union and proximity to a large market, as in Ireland." That said, particularly in developing countries, the major share of enterprises does not reach international markets (see, e.g., Friederici et al., 2020). In fact, at least in Africa, most digital enterprises serve customers only in their home city (UNCTAD, 2019, p. 112).

What can countries like Georgia learn from the experience with digitalization which has evolved over the past decades? In the following, we try to give some indications pointing toward an answer. In Sect. 2, we summarize some key findings about which factors lead to positive effects of digitalization on the economy before asking how governments may support positive developments in Sect. 3. Section 4 turns to the case of Georgia in greater detail. Section 5 provides a summary conclusion.

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[1] Note, however, that pricing algorithms may also lead to less beneficial outcomes, such as tacit collusion and inflated prices (see, e.g., Assad et al., 2020).

2   What Is Important for the Digital Economy?

Obviously, before digitalization can lead to positive effects, digitalization itself has to take place. Basically, the factors which lead to prospering digitalization may be grouped into infrastructure, human capital, and institutional environment. We briefly elaborate upon these in the following subsections.

2.1   Infrastructure

For developing countries, digitalization typically involves foreign investments by firms from abroad. Foreign firms usually choose to invest in these countries to benefit from certain advantages, for instance labor costs or skilled workers. Quality considerations, both regarding the technical infrastructure and human capital, play an increasingly crucial role in several cases (Sudan et al., 2010, p. 42).

Because digitalization crucially relies on the internet, an up-to-date, fast, and safe provision of internet is the first key resource to offer. Further, it is important to reach a large share of the population. Therefore, internet access should not be limited only to metropolitan regions. But offering technical internet access is not sufficient, as it also has to be readily available to citizens. This means that people need to be equipped with suitable devices and have affordable access to the internet.

For some countries, it proved beneficial to install technology parks which, as technology clusters, then turned into drivers of growth. Most prominently, the Silicon Valley originated in such a technology park, the Stanford Industrial Park, which was installed in 1951. The development of the valley was crucially influenced by public funds, artificially low rents for start-ups, the pre-existing technological know-how and additional policies like the so-called co-ops (actually titled Honors Cooperative Program), which allowed full-time employees of start-ups to study at the local universities on a part-time basis. The idea of technology parks has been successfully implemented in other countries as well, for instance in the Philippines and in Thailand (Rai & Kurnia, 2018, p. 731).

A crucial dimension of such clusters is that they allow for the evolution of "entrepreneurial ecosystems" (Spigel & Harrison, 2018, p. 151), within which tacit knowledge about, loosely speaking, "how things are done" can be transmitted. Clusters may evolve around an innovation hub, a firm or other location where early innovators may meet, exchange ideas or experiences, or join forces to work together. A successful innovation hub in a developing country is Zambia's BongoHive, which "has evolved from being a meeting place for software developers to a support organization that assists entrepreneurs to validate their ideas, start a business, accelerate growth and attract investment" (UNCTAD, 2019, p. 115).

Potential local start-ups require access to finance, which is usually supplied via the financial sector. In developing countries, the financial sector is, however, generally underdeveloped. Due to the typically high risks involved in digital start-ups,

commercial banks are unlikely to offer funding (UNCTAD, 2019, p. 113). Larger, already successful firms or hubs may provide an alternative source of finance or at least give guidance in how to acquire funding, as the case of BongoHive shows.

2.2   Human Capital

As the case of Silicon Valley has shown, peoples' skills are crucial. In the field of the digital economy, skill development involves "digital literacy" as first step. Only when people are sufficiently acquainted with digital devices will they be able to develop new (business) ideas related to these devices. As the United Nation's International Telecommunication Union states in its Global Connectivity Report 2022, "[o]vercoming digital illiteracy is critical in bridging the usage gap. Effective and large-scale programmes are needed to address the challenge, including providing digital literacy as part of the school curriculum. Funding school connectivity remains a challenge, however" (ITU, 2022, xvii).

Once digital literacy is provided for, people need to acquire the relevant knowledge about processes and technologies to fully exploit the benefits available from digitalization or further develop technologies. Singapore, for instance, embedded an IT curriculum within the school system. In India, Ireland, Poland, and the Philippines, university curricula were, in a joint procedure between the government, universities and the private sector, adjusted to better fit to the needs of the private sector (see Rai & Kurnia, 2018: 735).

In order to profit from digitalization on an entrepreneurial level, to-be entrepreneurs need to know how to run and scale a digital enterprise. Such "entrepreneurial knowledge" (Spigel & Harrison, 2018, p. 151) is mostly tacit and acquired by firsthand experience or mentorship. Typically, this form of knowledge is weak in developing countries, and scholars argue it takes one or two generations of entrepreneurs to build a sufficient basis of it to be diffused effectively and widely (UNCTAD, 2019, p. 113).

2.3   Institutional Environment

The previous subsections already imply that the institutional environment plays an important role in the development of the digital economy as well. Inasmuch as foreign investments play an important role, it becomes immediately clear that firms will abstain from investment in regions with poorly enforced (intellectual) property rights.

Since affordable access to the internet is one of the crucial factors for digital development, competition among suppliers of digital goods and services along the entire value chain appears desirable. Inasmuch as competition may also assure high levels of quality, adequately implemented competition law may also help achieve

this goal, including technical safety and quality. Note, however, that some scholars argue that market competition may not be as desirable in developing countries as it is in developed countries (see, e.g., Ioannis et al., 2013; see Priest, 2013 for the counter-perspective). The reason, according to the proponents of this perspective, lies with the fact that the general conditions in developing countries differ systematically from those in developed countries. For instance, the number of potential competitors might be more limited, e.g. due to (relative to income) higher financial barriers to entry.

Of growing concern is also the privacy and security of data, be they personal, on firm-, or even public-/political-level. As the United Nation's Digital Economy Report of 2019 (p. xix) elaborates: "Various security arrangements are important to protect against deliberate acts of data misuse. Laws and regulations are needed to counter theft of personal data, to set rules for what and how personal data can be collected, used, transferred or removed, and to ensure that data-driven business models generate gains for society as a whole."

3   The Role of Governments

How can governments in general try to exploit the advantages digitalization promises? On the one hand, they can establish the business environment necessary for any firms of the digital economy. On the other hand, they may try to proactively shape the kind of digital industry they believe to be particularly profitable for the specific country.

3.1   Business Environment

As outlined above, the digital economy relies on the technical infrastructure, human capital, and a reliable institutional environment. All these factors fall into the core responsibilities of governments and provide a kind of hygiene factor in the sense of Herzberg. If they are not met to a certain, desirable degree, firms will abstain from investing or won't stand a chance to develop in the first place.

Beyond these hygiene factors, governments may try to attract firms of the digital economy by offering tax incentives. Sudan et al. (2010, p. 33f.) offer an extensive overview of examples of countries doing so, ranging from "reduced income tax rate of 10% for key software enterprises identified by the government (China), an income tax holiday on profit from exports (India and Singapore), 100% tax exemption for qualifying companies for 10 years (Malaysia) or 7 years (Republic of Korea), 100% tax exemption for pioneer status companies (Singapore)". Similarly, governments may offer subsidies and even link these to certain economic performances like the number of jobs created as in the case of India. To attract investments in existing firms, governments may offer deductions on capital expenditures, which reach up to

100% in the case of Malaysia. Customs duties or import VAT may be abated or dropped entirely, as in China or India.

Given that start-ups are likely to have problems finding finance, the government may also provide special funds for digital start-ups. Likewise, it may help start-ups to expand by offering office space with low rents. Locating these offices in proximity to each other, for instance in no-longer used, former administrative building complexes, may lead to the development of clusters or innovation hubs.

To enhance the development of IT-skilled human resources, governments may facilitate the collaboration between universities and the private sector. On the one hand, this may motivate firms to invest in universities. On the other hand, firms may gain closer contact with research, while researchers and teachers gain better understanding of market needs. Such collaborations have been implemented in countries like Ireland, India, or Poland (Rai & Kurnia, 2018, p. 735).

Targeted fiscal and other incentives may catalyze growth (with possibly mild distortion effects). This may reduce costs and/or lead to more efficient cooperation among firms or between private and public entities. Governments may also nurture the skills required in a digital economy, facilitate the erection of IT parks (one of these, the Stanford Industrial Park, later morphed to Silicon Valley) or alike.

3.2   Shaping the Industry

Although often neglected (at least in economics literature), governments take an active role in shaping industries, either deliberately or accidentally. Innovations like the internet, smartphones, or lithium-ion batteries would not have been possible without public entities like universities or the military (Mazzucato, 2018). In fact, there is evidence that fiscal policies aimed at specific key problems and creating new markets may lead to larger positive effects on GDP and private investment in research and development compared to generic public expenditures (Deleidi & Mazzucato, 2021). "Directed technical change" may also help avoid socially detrimental effects like environmental damages (Acemoglu, 2002; Acemoglu et al., 2012).

From a practical point of view, policies shaping industries appear rather straightforward. Governments may offer subsidies for particular industries, provide funding for specific areas of research, or facilitate financing for enterprises of a specific industry. Subsidies may come in several forms, including the establishment of special economic zones. Ireland, for instance, managed to attract roughly 450 international financial institutions by establishing the International Financial Services Center (IFSC) in 1987 (Sudan et al., 2010, p. 9). Facilitating access to financial resources may be provided, for instance, by state investment banks. These may then take the role of venture capitalists (Mazzucato & Penna, 2016).

It may be worthwhile to highlight that these interventions, while proximately costly, may ultimately pay off financially. Even if special economic zones may charge low or zero tax rates for firms, the employees working in those firms typically

are not freed of taxes. And the investments as venture capitalists may generate profits once finance enterprises turn profitable, or when credits are repaid with interest.

4 The Situation in Georgia

Given the theoretical and general empirical background outlined in the previous sections, one may ask how a specific country, Georgia, is prepared for the digital economy. To answer this question, we basically follow the key factors outlined in Sect. 2, infrastructure, human capital and institutional environment, and try to figure where currently advantages and disadvantages can be detected. We group these into advantages and challenges.

4.1 *Advantages*

On a very general level, several policies employed by Georgia are initiated and financed by its link to the European Union via the EU's Eastern Partnership program, which was launched in 2009.

A key area of investment is internet access, which is well underway. The UN's International Telecommunication Union (ITU) testifies that Georgia "is on a steady path to digital transformation" (ITU, 2021a, p. 45). It is relatively well-equipped with infrastructure and affordable access to it. Connectivity is even better than, for instance, in Ukraine, a country which is well-known for its IT sector (ibd., p. 62f.). In 2018, 75% of total subscribers used optical fiber technology, fiber being the by far most used technology before WiFi, which is predominantly used in rural regions (ibd., p. 44). The World Bank financially supports Georgia's efforts to connect the citizens currently not served by high-quality broadband. Mobile 4G/LTE covers approximately 99.72% of the population.

Compared to its neighbors Azerbaijan and Armenia, Georgia also offers by far more secure internet servers per capita. The World Bank reports almost 3500 per million inhabitants, compared to roughly 300 in Azerbaijan and less than 600 in Armenia (see Appendix for the corresponding data).

Regarding regulation, Georgia is comparatively unconstrained, at least in terms of ease of doing business, which tries to measure restrictions on opening businesses and bureaucratic or other hurdles while running a business. Data provided by the World Bank show that it is relatively easy to do business, even compared to most EU member states. The corresponding value measures the percentage of the "best possible mixture." So an ease of doing business score of 75 means an economy was 25% points away from the best regulatory performance constructed across all economies and across time. Georgia achieves a value of almost 84, while the average of EU member states is 76. Georgia also fares notably better than its neighbors Azerbaijan (76.7), Armenia (74.5), and Russia (78.2).

Related to the digital economy, Georgia is currently implementing an infrastructure-sharing law, which aims to reduce costs of deployment, on the one hand, and promote competition in the telecommunication sector, on the other (ITU, 2021a, p. 46). Further, the regulatory link to the EU may also be a benefit due to the EU's progressive approach to data protection, although its implementation is still pending. As the Digital Economy Report 2019 (p. xix) states, "[t]he European Union's General Data Protection Regulation, which took effect in May 2018, is currently the most comprehensive approach to data protection, with global implications."

4.2   Challenges

While several key factors have already been tackled, Georgia still faces several challenges on its way to cope with other countries in the digital sphere.

While the number of secure servers per capita is larger than in Azerbaijan and Armenia, this number falls far below that of EU member states, where the average number is over 53,000 per million (compared to 3500 in Georgia). Even Ukraine employs almost threefold the number of Georgia (roughly 9000 per million). Despite the relatively high levels of potential connectivity described in the previous subsection, the percentage of people actually using the internet also falls below even that of Georgia's neighboring countries. According to World Bank data, in 2020 approximately 72.5% of the population do so, compared to almost 85% in Azerbaijan and Russia (see Appendix). Even Armenia reported a higher percentage in this domain, namely 76.5%. With the exception of Bulgaria and Italy, Georgia falls behind all EU member states, and also countries like Belarus or Bosnia.

Related to the number of secure servers is another major challenge, cybersecurity. The ITU's Global Cybersecurity Index (ITU, 2020) ranks Georgia only 55th, out of 182 countries. It is ranked below neighboring Azerbaijan (40) and developing countries like Ghana (43), Tanzania (37) or Egypt (23). This is particularly worrisome as Georgia has repeatedly been hit by large-scale cyberattacks from Russia, not only during the warfare in 2008, but also, e.g., in 2019 (Roguski, 2020).

One of the major challenges is skills. The Human Capital Index, a very general measure of worker productivity aggregated by the World Bank, is lower in Georgia than in any EU member state, or even all its neighboring countries—though only slightly so compared to Azerbaijan and Armenia. The World Bank also provides data on several dimensions of educational attainments in domains relevant to the digital economy, including which share of the population has written a computer program using a specialized programming language. Compared to other European countries, Georgia again ranks lower (see Appendix). It also ranks below Russia and Turkey. However, it ranks above neighboring Azerbaijan.

5 Conclusion

Digitalization offers many potential advantages, but taking advantage of them requires investments. The literature has identified factors relevant to the development of a successful digital economy, which can be categorized into three groups: infrastructure, human capital, and institutional framework.

Georgia fairs comparatively well regarding infrastructure and partly in the development of the institutional framework. The Georgian government has also invested about USD 4.7 million in more than 200 promising digital start-ups (ITU, 2021b), taking the role as venture capitalist. Despite these achievements, some major challenges remain, the two major ones being the development of necessary human skills and cybersecurity.

In the above, we haven't mentioned consequences of digitalization which are increasingly debated in reference to developed countries. These primarily include an increase in the social divide because some people will find highly profitable jobs, while others might find none at all. This gap might in turn have severe political implications (see, e.g., Adams, 2018, or Basu, 2021).

Further, we have focused on firms of the digital economy only. However, the effect of digitalization obviously transcends to classical industry (IoT). The more it is important to lay the foundations for citizens to be able to find their way through the digitized world. The challenge of lacking skill thus becomes even more important. We can only re-emphasize the appeal: "Skill up, and up again" (ITU, 2022, p. 119ff.).

Appendix

Selected performance indicators

Country (selected)	GDP per capita 2020 in 2015 USD	Internet use 2020 (% pop. using)	Secure servers 2020 (per mio. people)	Human capital index 2020 (0: low, 1: high)	Programming skills ø 2015–'19 (% pop. with experience)	Doing business 2020 (% of best)
Georgia	4927.06	72.53	3497.45	0.57	1.01	83.7
Neighboring countries						
Azerbaijan	5340.49	84.60	299.31	0.58	0.65	76.7
Armenia	4243.24	76.51	587.53	0.58	NA	74.5
Russian Federation	10,219.75	84.99	13,347.62	0.68	1.15	78.2
EU countries						
Austria	45,090.76	87.53	33,802.69	0.75	7.52	78.7
Belgium	42,787.30	91.53	24,203.50	0.76	8.13	75

(continued)

Country (selected)	GDP per capita 2020 in 2015 USD	Internet use 2020 (% pop. using)	Secure servers 2020 (per mio. people)	Human capital index 2020 (0: low, 1: high)	Programming skills ø 2015–'19 (% pop. with experience)	Doing business 2020 (% of best)
Bulgaria	8293.57	70.16	48,076.19	0.61	1.34	72
Croatia	14,888.33	78.32	22,352.06	0.71	7.66	73.6
Cyprus	27,714.75	90.80	24,989.21	0.76	2.90	73.4
Czech Republic	19,608.99	81.34	67,601.76	0.75	4.30	76.3
Denmark	58,585.51	96.55	277,081.81	0.76	13.90	85.3
Estonia	21,421.15	89.06	84,357.11	0.78	6.88	80.6
Finland	46,471.36	92.17	81,650.51	0.80	8.66	80.2
France	38,210.22	84.80	36,226.38	0.76	5.09	76.8
Germany	42,526.55	89.81	97,517.57	0.75	5.37	79.7
Greece	18,831.29	78.12	8906.08	0.69	7.09	68.4
Hungary	15,486.63	84.77	32,813.04	0.68	3.69	73.4
Ireland	88,588.48	92.00	115,.809.02	0.79	5.10	79.6
Italy	31,511.79	70.48	20,673.47	0.73	4.60	72.9
Latvia	16,406.23	88.90	20,328.88	0.71	2.00	80.3
Lithuania	18,072.29	83.06	47,128.24	0.71	4.40	81.6
Luxembourg	110,584.33	98.82	44,903.47	0.69	11.53	69.6
Malta	27,737.94	86.86	14,447.00	0.71	6.80	66.1
Netherlands	48,424.09	91.33	136,863.00	0.79	7.99	76.1
Poland	15,549.67	83.18	25,181.38	0.75	2.97	76.4
Portugal	20,731.95	78.26	22,178.91	0.77	7.30	76.5
Romania	11,589.66	78.46	21,382.92	0.58	1.18	73.3
Slovak Republic	17,923.11	89.92	25,918.39	0.66	3.39	75.6
Slovenia	24,703.63	86.60	49,112.47	0.77	4.71	76.5
Spain	26,238.78	93.21	21,587.57	0.73	6.42	77.9
Sweden	53,692.53	94.54	32,739.74	0.80	10.51	82
Non-EU countries						
Belarus	6418.24	85.09	7550.57	0.70	2.19	74.3
Bosnia and Herzegovina	5854.67	73.21	3164.46	0.58	2.11	65.4
Iceland	54,291.87	99.00	75,513.76	0.75	12.88	79
Montenegro	7339.08	77.61	783.83	0.63	2.70	73.8
Norway	77,544.03	97.00	39,030.02	0.77	10.89	82.6
Serbia	7089.87	78.37	9361.19	0.68	4.19	75.7
Turkey	13,250.66	77.67	6759.71	0.65	2.62	76.8

(continued)

Country (selected)	GDP per capita 2020 in 2015 USD	Internet use 2020 (% pop. using)	Secure servers 2020 (per mio. people)	Human capital index 2020 (0: low, 1: high)	Programming skills ø 2015–'19 (% pop. with experience)	Doing business 2020 (% of best)
Ukraine	2451.90	75.04	8952.50	0.63	NA	70.2
United Kingdom	46,209.11	94.82	36,452.57	0.78	8.68	83.5

Source: World Bank (own calculations)

References

Acemoglu, D. (2002). Directed technical change. *The Review of Economic Studies, 69*(4), 781–809.

Acemoglu, D., Aghion, P., Bursztyn, L., & Hemous, D. (2012). The environment and directed technical change. *The American Economic Review, 102*(1), 131–166.

Adams, A. (2018). Technology and the labour market: The assessment. *Oxford Review of Economic Policy, 34*(3), 349–361.

Assad, S., Clark, R., Ershov, D., & Xu, L. (2020). *Algorithmic pricing and competition: Empirical evidence from the German retail gasoline market.* CESifo Working Paper 8521.

Basu, K. (2021). The ground beneath our feet. *Oxford Review of Economic Policy, 37*(4), 783–793.

Deleidi, M., & Mazzucato, M. (2021). Directed innovation policies and the supermultiplier: An empirical assessment of mission-oriented policies in the US economy. *Research Policy, 50*(2), 104151.

Friederici, N., Wahome, M., & Graham, M. (2020). *Digital entrepreneurship in Africa: How a continent is escaping Silicon Valley's long shadow*. MIT Press.

Hall, J., Kendrick, C., & Nosko, C. (2015). *The effects of Uber's surge pricing: A case study request a ride*. The University of Chicago Booth School of Business.

International Telecommunication Union, ITU. (2020). *Global cybersecurity index 2020*. ITU Publications.

International Telecommunication Union, ITU. (2021a). *Broadband mapping systems in Europe and regional harmonization initiatives: Background paper*. ITU Publications.

International Telecommunication Union, ITU. (2021b). Investing in innovation: Georgia's digital development journey. Interview with Natela Turnava, Minister of Economy and Sustainable Development of Georgia. Retrieved September 28, 2022, from https://www.itu.int/hub/2021/11/investing-in-innovation-georgias-digital-development-journey/

International Telecommunication Union, ITU. (2022). *Global connectivity report 2022*. ITU Publications.

Ioannis, L., Mateus, A., & Raslan, A. (2013). Is there a tension between development economics and competition? In D. Daniel Sokol, T. K. Cheng, & I. Lianos (Eds.), *Competition law and development* (pp. 35–51). Stanford Law Books.

Mazzucato, M. (2018). *The entrepreneurial state: Debunking public vs private sector myths*. Penguin.

Mazzucato, M., & Penna, C. C. R. (2016). Beyond market failures: The market creating and shaping roles of state investment banks. *Journal of Economic Policy Reform, 19*(4), 305–326.

OECD. (2015). *Data-driven innovation: Big data for growth and well-being*. OECD Publishing. Retrieved September 28, 2022, from https://doi.org/10.1787/9789264229358-en

OECD. (2016a). *Competition and innovation in land transport*. OECD Publishing. Retrieved September 28, 2022, from https://one.oecd.org/document/DAF/COMP/WP2(2016)6/en/pdf

OECD. (2016b). *Protecting and promoting competition in response to 'disruptive' innovations in legal services*. OECD Publishing. Retrieved September 28, 2022, from https://one.oecd.org/document/DAF/COMP/WP2(2016)1/en/pdf

OECD. (2016c). *Refining regulation to enable major innovations in financial markets*. OECD Publishing. Retrieved September 28, 2022, from https://one.oecd.org/document/DAF/COMP/WP2(2015)9/en/pdf

Priest, G. L. (2013). Competition law in developing nations: The absolutist view. In D. Daniel Sokol, T. K. Cheng, & I. Lianos (Eds.), *Competition law and development* (pp. 79–89). Stanford Law Books.

Rai, D., & Kurnia, S. (2018). Factors affecting the growth of the ICT industry: The case of Bhutan. In C. Jyotie, M. S. Islam, F. Wahid, J. M. Bass, & J. E. Priyatma (Eds.), *Information and communication technologies for development, ICT4D 2017, IFIP advances in information and communication technology* (Vol. 504, pp. 728–739). Springer.

Roguski, P. (2020). *Russian cyber attacks against Georgia, public attributions and sovereignty in cyberspace*. Just Security, New York University School of Law. Retrieved September 28, 2022, from https://www.justsecurity.org/69019/russian-cyber-attacks-against-georgia-public-attributions-and-sovereignty-in-cyberspace/

Spigel, B., & Harrison, R. (2018). Toward a process theory of entrepreneurial ecosystems. *Strategic Entrepreneurship Journal, 12*(1), 151–168.

Sudan, R., Ayers, S., Dongier, P., Muente-Kunigami, A., & Qiang, C. Z.-W. (2010). *The global opportunity in IT-based services – Assessing and enhancing country competitiveness*. The World Bank.

United Nations Conference on Trade and Development (UNCTAD). (2019). *Digital Economy Report 2019 – Value creation and capture: Implications for developing countries*. United Nations Publications.

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