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MIRDEC & GLOBECOS
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CONFERENCE PROCEEDINGS
ROME 2020-2, ITALY

Conference Proceedings
Full papers & abstracts

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Slagjana Stojanovska
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Rome, Italy
6-8 October 2020

MASTERS INTERNATIONAL
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We are very pleased to introduce the Conference Proceedings (Full papers & Abstracts) of the ***MIRDEC-GLOBECOS Rome 2020-2, International Academic Conference on Contemporary Discussions and Social Science Studies,*** **6-8 October 2020, University of Washington Rome Center, Rome, Italy.**

Thanks to all our participants for their academic and social contributions.

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VALERIA COCCO[1]

DIGITAL EXPERIENCE TO RE-START TOURISM

Abstract

The pandemic phenomenon strongly marked the Italian territory since the beginning of March 2020. It had consequences, as it is clear, not only in the healthy sphere, but also referring to the social, tourism and economic fabric. In order to re-start tourism sector, tour operator and tourism enterprises' resilience made the online experiences rise up. In fact, given the need of physical distancing, necessary in order to limit the contagion, and waiting for the recovery of a "new tourist normality", certainly, the offer of experiential tourist products should be inadequate. Yet, in a digitalized and hyper-connected world, a new type of experience seems to emerge: the digital experience. Anyway, when the offer of experience is digital, so the main travel factor is lacking, it is natural to wonder if it is still possible to talk about tourism, or rather if the digital experience could be instead a new form of information and communication of tourist products.

Keywords: Digital tourism, Covid-19, experience.

JEL Codes: Z30, Z31, Z38, Z39

1. Introduction

The fluid and dynamic nature of tourism, the tendency to move forward a social and quality tourism, as well as the pressing need to re-start a touristic path induce tourist operators to build a new offer that can respond to the renewed needs of the tourism market certainly modified by COVID-19, without forgetting the main issues and opportunities identified before the pandemic times. Of course, the task of stakeholders, local administrators and tourist operators in drawing up guidelines aimed at restarting the tourism sector is not simple, moreover considering the uncertainty and the considerable spread of the new COVID-19 disease (WTTC, 2020).

The pandemic is producing dramatic impacts on international tourism, in Italy, in Europe and in all the world. The pandemic affected also lifestyle, individuals' needs and choices and consequently it impacted needs and choices of tourists, and tourist market as a whole. The reduction in incomes, the unemployment increase and the fear of a new contagion contribute to change destinations' choices and re-draw tourist market. According to experts (ENIT, 2020), the post COVID-19 tourist could look for a confident tourist destination, a well-known and safe place, a comfort zone. So, the potential tourists in the post COVID-19 could travel in confident places - i.e., already known or close destinations – (Archer, 1978). In this scenario, the concept of physical and cultural proximity of places would acquire an important value in terms of travel and tourism and contribute to stimulate the domestic tourism.

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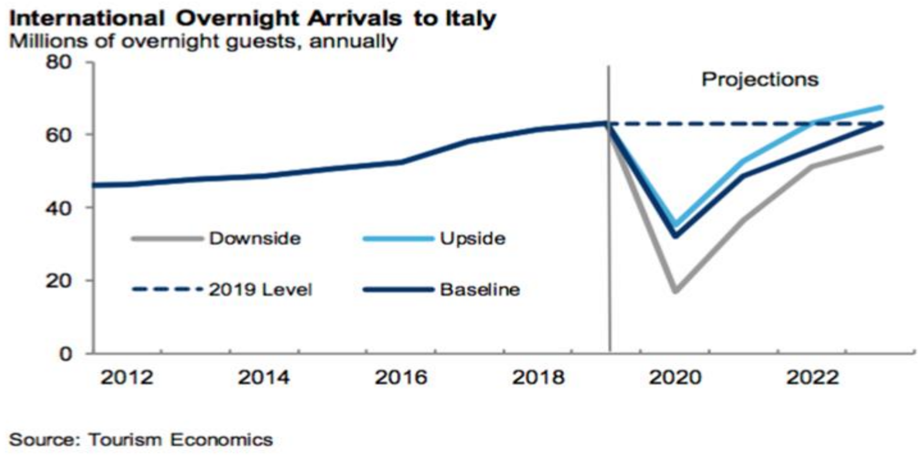
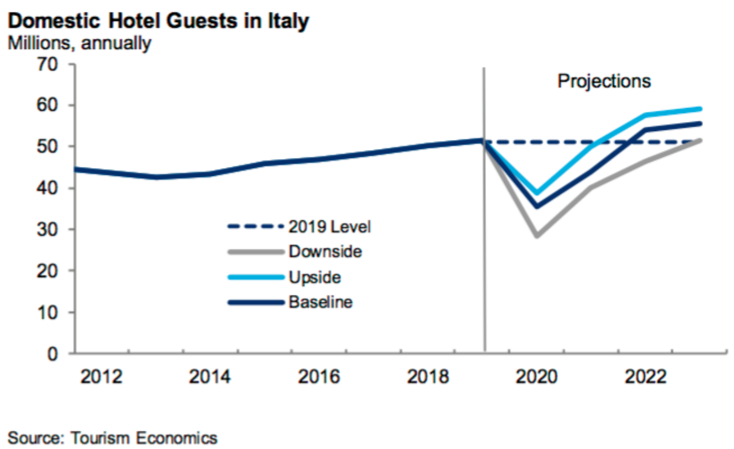
Figure 1. International overnights arrivals to Italy



Source: Tourist Economics, 2020.

Figure 2. Domestic Hotel Guests in Italy



Source: Tourist Economics, 2020.

According to OECD (2020) "the economic consequences of the COVID-19 crisis are likely to affect regions within countries very differently, depending on their areas of economic activity and the policies in place to support workers and firms. Some regions may suffer more than others from containment and social distancing measures, facing initially a steeper economic recession and with larger shares of jobs at risk. The importance of tourism and local consumption – including retail stores and restaurants along with culture and entertainment – partially explains the relatively higher number of jobs potentially at risk in tourist destinations and metropolitan areas" (OECD, 2020).

Figure 3. Effect of COVID-19: Var% tourist arrivals in the main Italian cities (2020 - 2019)

Source: Made by the author on data ENIT 2020 e Tourism Economics, 2020.

The leadership of Italy in the tourism sector in the pre COVID-19 caused great suffering for Italy. In 2019, Italy had about 5 million beds and more than 4% of the employed were directly employed in tourism, of which about 1% employed in the hospitality sector. These data therefore provide an overview of the order of magnitude relative to the impact of the tourism phenomenon on the Italian territory in direct terms; to this, it had to add the indirect effect of tourism on the Italian economy and market, thus tourism was about the 13% of Italian GDP (Aa.Vv., 2019; Eurostat, 2019).

It is clearer that the pandemic had a strong impact in tourism on the Italian territory not only in the short time, but it will be - according to the forecasts of expert (ENIT, 2020; Tourism Economics, 2020) – also in medium and long times. In fact, in the main cities (Rome, Florence, Venice, etc.) it is possible to see a huge percentage variation of tourist arrivals from 2019 to 2020. According to Confturismo data (2020) in Italy was registered a cancellation of 200 million bookings in Italian accommodation facilities in the month of March, and around -70% in June. In economic terms this lack of tourists was approximatively estimated in 2.7 billion euros (Confturismo, 2020), referring just to the value of the cancellation of trips and overnight stays, and not also including the lack of tourist spending by travelers, which therefore would probably have led to doubling the loss.

2. Digital experience

The search for experiences and emotions by the tourist represent a consolidated reality of the new tourist demand trends analyzed till the pre COVID-19 studies (Gilmore, Pine, 2000; Hetzel, 2002). At the same time, before the pandemic emergency, the digital context in the tourism sector was considered something to improve. So, the resilience of tourism sector in the emergency situation mixed the two trends digital and experience, offering a new kind of tourist product: the online experience.

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There are not a few cases in which the main world OTAs (i.e. Airbnb) offer online experiences. Yet, in the pandemic context that in a few months paralyzed the international tourist market, the creative spirit and resilience of tour operators supported by digital tools create new kind of tourist experiences that everyone could live from the sofa. Virtual tours and online experiences have provided populations in the period of the lockdown with a form of entertainment and have allowed the spread of the culture of distant places and traditions.

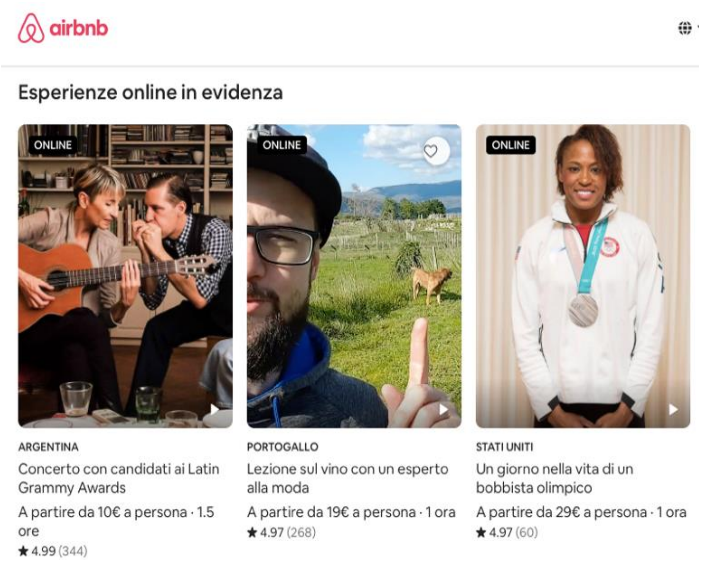
It is certainly difficult to imagine that these digitalized experiential proposals were able to limit the devastating economic impact caused by the pandemic in the 2020. Certainly, the new online experiences will not be able to make up for the lack of tourist and economic flows in tourist destinations. Indeed, the online experiences have probably focused the attention of tour operators in strengthening an alternative product through the use of digital and technology.

Figure 4. Online experiences' scenario

Source: Made by the author, 2020.

In this context, the virtual experience could highlight opportunity and risks for the tourist market. In particular, it is possible to hypothesized a triple scenario: i) a "no effect" scenario: the online experience could be a possible alternative proposal to a traditional tour, with no significant impacts on the future of the tourism market; ii) a "positive" scenario; the online experience could be a stimulus for the discovery of new and unexplored territories and destinations, thus acting as a promotional tool, as well as a service offered, and stimulating the user's interest in making a trip on the territory virtually explored; iii) a "negative" scenario: the online experience could turn into a risk for the tourism market, discouraging the potential tourist from exploring a certain territory because it was already virtually explored, in a safe way, comfortably from the sofa, and with a lower cost compared to a real experience. In a nutshell, the virtual experience allows an exploration and knowledge of territories and cultures comfortably from home, even in the case of distant populations and areas, so, is it correct to speak of tourism?

Figure 5. Airbnb Online Experiences



Source: Screenshot Airbnb Online Experiences (2020).

3. New form of tourism or new communication tool?

Tourists travel to different places, interact with people from different cultural backgrounds and bring back travel memories, and these travel activities are integrated into the totality of lived experiences (McCabe, Foster, 2006). Therefore, assuming digitalized tourism without including the movement of flows from one place to another would certainly tend to appear forced, moreover considering that the added value generated by the digital experiences in economic terms would certainly not be able to be neither close to the economic tourism impact in the destinations. Therefore, this approach based on digital experience would completely overturn the concepts underlying tourism that necessarily imply a move from a residence place to another destination. As it is clear, there are many doubts highlighted by the tourist operators about the opportunity linked to the new kind of digital experiences offered. Precisely, tour operators fear a distortion of the way of doing tourism, they fear a loss of interest of potential visitors, who in this way would never become really tourists on the territory.

By the way, some reflections emerge. Is it possible to talk about tourism from the sofa? Could the tourism sofa be considered as a possible tool for the future of tourism? Could the tourism sofa be considered as a new form of tourism when it destroys the main concepts of tourism itself? Could the tourism sofa negatively affect the traveler's motivation? Or instead, the virtual experience could spread the knowledge of new places by representing, rather than a form of tourism, a form of communication and information? Could it be a valid tool for tracing the foundations for a mental map of the tourist and to inspire the potential user of the virtual experience in the decision to travel in those places, when international travel will be possible again? In the context of sustainable tourism, the virtual experience could be translated into an alternative form of information to promoting unexplored places and new destinations? Could it favor the preservation of fragile territories, acting as a deterrent for overtourism? In the context of tourist accessibility, the use of an online experience could promote a path of awareness, thanks to the integration of all potential virtual users without barriers?

It is not easy to answer all these questions, but certainly, the pandemic phenomenon renewed interest in the digital world. Therefore, it could be interesting to reflect on the practical opportunity of the digital experience as a tool to re-start tourist and promote new tourist activities in the unexplored destinations, respecting the safety code that implies a physical distance. In the effect, the digital experience could act not as a new tourist product, but rather as an information and communication alternative tool characterized by awareness, comprehension and empathy. In fact, the experience stimulates and involves the senses, it is linked to tradition and to what the flavors of the territories are best able to tell. The promotion and communication of experiences is depopulated on the web, on the main OTAs and on social networks, and this is how the concept of storytelling, or rather the narration of the experience and the territory, merges with the marketing of the experience that attracts tourists to captivating and exciting proposals. In this scenario, the online experience as an alternative tool of communication and information of territories could take the place of storytelling, representing an evolution of it. The online experience, in fact, would strengthen the basic elements of the narrative communication tool such as awareness, comprehension and empathy between the tourist and the territories and it could promote a wider dissemination of knowledge of territories. So, if on the one hand, storytelling, as a form of narration directed at the tourist, adapts to the experience (Aaker, Aaker, 2016; McCabe, Foster, 2006; Tamma, 2002; Rispoli, Tamma, 1995); on the other hand, the virtual offer of the experience could create a strong involvement between the users of the experience and the territories, and it could be able to create a stronger empathy compared to storytelling.

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DANA DOBROVSKÁ[1] AND DAVID VANĚČEK[2]

TEACHER CHARISMA

Abstract

The HE teacher´s personality is a deciding quality factor in the educational process. Teacher interest and enthusiasm in teaching (and learning) is the starting point of education as it can motivate students to learn. Everyday experience proves students like to attend some teachers´ classes more than the other´s. There are some reasons make teachers attract students – the trait which has appeared in psychological and pedagogical texts is called teacher charisma. The aim of our study is to suggest whether the quality of teacher charisma can be measured by the Czech translation of a Taiwanese scale within a group of students of Czech Technical University in Prague, Czech Republic.

Keywords: Teacher, teaching, motivation, students, teacher charisma

JEL Codes:

1. Introduction

The HE teacher's personality is a deciding quality factor in the educational process. Experts in various sciences, such as theory of education, educational psychology, philosophy and sociology of instruction have tried to analyze this issue. Different approaches have been used: deduction - when scientists described an *ideal* teacher, induction - when students evaluated their teachers, or when psychological tests backed the illustration of *real personal qualities* of teachers. Sometimes, a combination of both approaches seemed appropriate (Bryson, Hand, 2007).

We had reviewed literatures and conducted surveys about the teaching behaviours good teachers in engineering programmes had in common (Dobrovská, 2016, 2017). In our research as well as in a research conducted by J. Davies (2006), students reported various qualities - these can be divided into 3 categories. A good teacher should be an expert in his specialization, he/she should have good didactic, pedagogical and presentation skills and he should have certain human qualities (e.g. humor, disponibility, enthusiasm).

Other authors offered lists of personality attributes - principles of effective teaching in higher education. Ramsden (2003) suggested 6 key principles of a good teacher: interest and explanation, respect for students and student learning, appropriate assessment and feedback, clear goals and intellectual challenge, independence, control (by students over their own learning) and engagement. A good teacher should be able to reflect stimulus from his/her students.

Students like to attend some teachers´ classes because of special characteristics of their personality. We expect there are some reasons make these teachers welcome and attract students. In some resources these teachers are simply called *quality teachers* while in other cases the term *charismatic teacher* was used. Teaching charisma is described as positive behaviour of a teacher in his class, which can deeply appeal students to learn. While the teacher is perceived approachable, well prepared and sensitive to student needs, students might be committed to work harder. Students are more likely to be receptive to learning under his/her supportive social climate in the classroom. The teacher plays important role in developing such environment and has a strong impact on their students.

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Taiwanese authors Huang and Lin (2014) researched the topic of teaching charisma. They identified four merits that deeply attract students and are essential for a charismatic teacher.

First, a charismatic teacher should be knowledgeable, since teaching requires an interweaving of many kinds of specialized and continuously innovated knowledge (also by Dobrovská, 2017, Minchew, 2001, Neumann, 2018). Second, a charismatic teacher should have positive character traits such as friendliness, approachability, patience and enthusiasm (Lin and Huang, 2014) since teachers are expected to be good role models for the students and they should perform what a teacher should have. The teachers´ behaviour models, attitudes, appearance and character may affect the feeling students perceive, and may even influence the interaction between teacher and students.Third, a charismatic teacher should attach importance to teaching methods. The teachers should possess teaching skills and be able to choose the most suitable teaching method from a variety of teaching tools.Fourth, a charismatic teacher should have a good sense of humor, since students prefer listening to teachers who incorporate humor into the lecture (also by Davies, 2006). On the basis of these indicators – knowledge, character traits, teaching methods and humor – an instrument was developped to measure teacher´s teaching charisma (Lin and Huang, 2014). Taiwanese authors summarize the ITCCC (Inventory of Teaching Charisma in the College Classroom) was found a valid and reliable tool to measure the phenomenon in the accounting fundamental course in Taiwan. Less is known about the validity and reliability of the inventory outside the fundamental course (accounting). As both authors noted in their study limitations they suggested the measurement invariance of their scale across different subjects needs to be examined.

2. Methodology

Assisting students in learning is one of the duties of an educator. In order to gain further insight into students´ perspectives of teaching charisma we wanted to explore the possibility of using the ITCCC:

- in Czech translation
- in an engineering pedagogy course

We obtained the approval to conduct the research investigation in a course of psychology within the programme „Engineering Pedagogy“. Our preliminary sample was composed of 76 students from 2 regular classes within MIAS School of Business, Czech Technical University in Prague. The purpose of the study was explained to the students. They completed questionnaires during October-November of the 2017/2018 academic year, in the course of a psychology lecture. The average administration took 25 minutes. The entire data set was scrutinized to detect missing values, invalid values and outliers. In our sample, 24 students were female and 52 were male.

Data for this preliminary study were collected by using self-report measures including a demographic questionnaire (age, gender) and a measure of student´s perception of teaching behaviour about his/her teacher.

The Czech version of the ITCCC consisted of 23 items, comprising four subscales: „character traits“, „knowledge“, „humor“ and „teaching techniques“.

The „Character traits“ subscale had 6 items, concerned with the teacher´s performance with respect to behaviours and morals (e.g. „my teacher has good moral characteristics“).

The „Knowledge“ subscale, having 7 items, concerned with the professional knowledge and pedagogical knowledge which a teacher possessed (e.g. „my teacher can solve all the course-related problems“).

The „Humor“ subscale has 7 items concerns with the teacher´s humorous style in the classroom (e.g. my teacher is a humorous teacher).

The „Teaching methods“ subscale, having 4 items, concerned with teacher teaching methodology (e.g. „my teacher uses some teaching materials that are new and interesting“).

Students rated each item on the extent to which they agreed with each statement using Likert-scale responses (ranging from 1 = never true to 5 = always true. The higher the score was, the better degree of teaching charisma.

Parallel to the Taiwanese questionnaire we added an open ended item - we asked students to complete a sentence „In my view, teacher charisma means…“. We intended to get some more information about the student understanding of the concept (deeper understanding of the connotations).

3. Results

Presented in Table 1 there is the mean and standard deviation of the English version of the ITCCC, and Cronbach α coefficient for each factor is included as well, as published by Lin and Huang (2014).

Table 1. Descriptive Statistics of the factors in the ITCCC (Taiwanese version)

	Cronbach α	Mean	SD
Character traits	.854	3.37	.738
Knowledge	.893	3.46	.794
Humor	.870	2.80	.729
Teaching techniques	.839	2.64	.929

Source: Authors.

In Table 2 there are descriptive data - the mean and standard deviation of the Czech version of the ITCCC and the Cronbach α coefficient for each of 4 factors as obtained in our survey.

The text included in the sections or subsections must begin one line after the section or subsection title. Do not use hard tabs and limit the use of hard returns to one return at the end of a paragraph.

Table 2. Descriptive statistics of the factors in the ITCCC (Czech version)

	Cronbach α	Mean	SD
Character traits	.828	3.56	.724
Knowledge	.844	3.88	.744
Humor	.876	2.88	.723
Teaching techniques	.822	2.58	.868

Source: Authors.

In the additional item: „In my view, teacher charisma means…..“, not all the students gave the answer – of 76 respondents 60 only completed the open ended item. Charismatic teacher was mostly described by the terms „someone who is better than an average teacher, someone who is able to give good presentations, someone attractive, someone who knows more than other teachers.

4. Discussion

When we translated the questionnaire from English into Czech we had to modify slightly some expressions of several items. Nevertheless, we tried to keep connotations of all items as they had been designed in the Taiwanese version (2014). However, our opinion was that subscale „Teaching methods“ (4 items) should have been treated more in detail while the subscale „humor“ (7 items) could have shortened as both factors do not have the same importance for teaching process. Also „Humor“ might be considered one of the personality traits.

Results found by our preliminary study suggest possible use of the questionnaire for assessment of students´ perceptions of the quality of a teacher´s teaching in professional subjects (accounting in the Taiwanese survey and psychology in our survey).

There are similarities in the statistics obtained in the Taiwanese and Czech groups of respondents (similar results in Cronbach α, mean and SD). Nevertheless more surveys in larger groups of respondents are desirable, including more sophisticated statistical analysis. Such research would provide useful evidence to support usage of this inventory in different languages, surroundings and courses.

Lin and Huang (2014) mean another future research topic might be potential correlation between teacher charisma and student performance. Teachers who deliver the most engaging and interesting lectures (charismatic teachers) may be the students´ favorites, but they may not always help students to learn more than the non-charismatic teachers. Past studies have brought contradictory results. We would like to raise questions about the value of student´ evaluation of teachers and „teacher charisma" supported by one quantitative method only.

Students may be learning less than they think they are learning from those they consider the charismatic teachers has implications for how teaching effectiveness is evaluated. Many university teachers are evaluated on their teaching mostly, or entirely, by asking their students. We believe, though, that students may be evaluating their teachers based upon qualities that contribute little to actual learning. Teacher charisma represents one of many characteristics the process of learning might be determined by. With a good presenter it might seem like a student is taking more in, but it does not guarantee there has been an „aha" moment. Hard work must be done by a learner – a teacher himself cannot do much in fostering neuro-connection necessary for learning. Inner motivation represents another important factor as well as divergent thinking model. Students might learn better with a „Socratic method", when teacher asks students questions to get them to think about the subject matter.

5. Conclusions

Using the Czech version of the ITCCC in the conditions of engineering pedagogy course needs further researching, working with different groups of students. Examining teacher charisma seems a complex issue which also requires combination of methods, preferably quantitative and qualitative ones. Relation between teacher charisma, student motivation to learn and study performance is another issue to be studied.

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MARIA LIASHENKO[1]

WIKI SITES AS A LEARNING PLATFORM FOR LANGUAGE MEDIATION AT UNIVERSITY

Abstract

This small-scale research is aimed at exploring students' perceptions of collaborative English learning via a wiki site when doing a course of English for specific purposes (ESP) at the university. The learning community based on a wiki platform was launched to improve English skills in collaborative activities with the teacher and the peers. Semi structured interviews were conducted with the students on a voluntary basis after the course completion. The data was analyzed using a qualitative analysis which is resulted in five main categories describing students' perceptions of their experiences. The results enabled to present a model of wiki enhanced learning which is grounded in theory of teaching-learning cycle. It is expected to provide an insight into the strengths and limitations of collaborative learning via wiki technology and address the challenges and outcomes of deploying wiki sites into the educational context at university.

Keywords: Student's perceptions, language mediation, CEFR, wiki sites, English learning

JEL Codes: I20, I21, I28, I29

1. Introduction

The proliferation of computer mediated technologies facilitated the paradigm shift in the culture of communicating, working, and learning. Due to these profound changes in the way how information is processed and disseminated, language education is also going through a paradigm shift: the development beyond the communicative approach to more complex and dynamic action-oriented approaches based on the ideas of mediation across cultures, worlds and media (Piccardo et al. 2019). Being revised and updated in 2018, the Common European Framework of References for Languages (CEFR) advances new innovative aspects of learning, teaching and assessment in a pluricultural and digitized world with the focus on mediation and interaction of learners as social agents (CEFR/CV 2018). There arises a need to explore how teaching and learning, which are guided by new strategies, can be enhanced through technology. This research proposes the deployment of a wiki site as a "learning platform" (Passey 2011) to enhance involvement of students in mediation activities which are important for passing English qualifying exams. The effectiveness of using wiki tools for learning languages as a second one is well documented in the literature (Lin 2011). Wiki sites create learning communities where collaborative goal-oriented practices can take place (Henderson et al. 2015). There is the necessity to research how exactly a wiki site can be deployed as a learning platform and how new mediation wiki-enhanced activities are perceived by students in their learning. Much attention should be paid to better understanding of learners' needs and experiences of new connections that could lead to transformative changes in their experiences of wiki mediated collaborative knowledge generation.

The professional context centres around two Russian universities, The Higher School of Economics and Minin university. In both universities the English exam training is arranged using conventional face-to face weekly meetings (only two hours per week) and a learning management system (LMS/ Moodle). The system offers obvious advantages and benefits, but it is unwillingly accepted by teachers and learners (Liashenko 2016), so an "appealing approach" can be a "hybrid course site" that would be linked to the formal context but will be openly accessible (Godwin-Jones 2016 p 347). With an advent

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of social media there arises the necessity to switch to more shared and "dynamic learning platforms" to integrate traditional approaches with collaborative Web 2.0 media (Stern 2011). My personal motivation is to "bridge organization level and individual level" by deploying a less hierarchical and multi modal wiki- based learning environment to scaffold various students' learning needs to meet the institutional exam requirements. Wiki technology is viewed as a transition zone between the university with its formal approach and life-worlds of students (Bergold 2012).

The alignment between different levels of the problem under consideration can be understood from a multilevel perspective where the CEFR demands for a paradigm shift in language education, consequently affecting the institutional level at which learners have limited opportunities for exam training and teachers must cope with new challenges of more descriptors and fewer teaching hours. The need for technology integration with everyday teaching practices makes me search for possible solutions that would be relevant to my professional context to address the challenges. The rationale for conducting the research is twofold:1) to scaffold language mediation activities and online interaction via a wiki outside the classroom; 2) to explore students' experiences to better understand the factors influencing an effective deployment of wiki into teaching. The research focuses on describing various students' experiences using wiki technology for learning through mediation, collaborative learning, and online interaction.

2. Literature review

2.1. The CEFR in language education

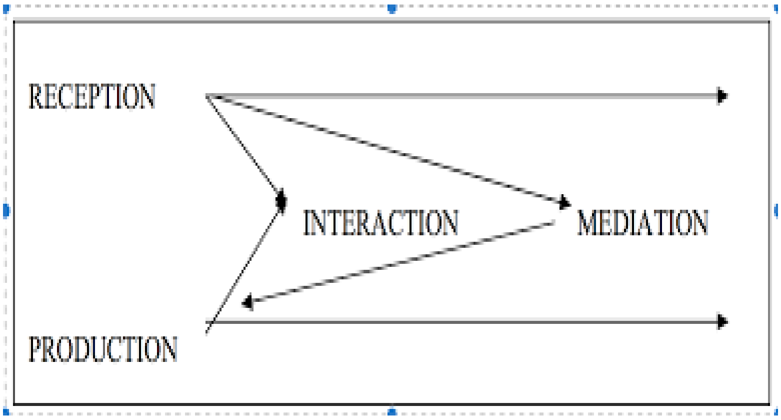
The CEFR has a profound impact on language learning and teaching. Cambridge exams (IELTS, FCE, CAE etc.) use the illustrative descriptors for language proficiency levels from A1 (basic user) to C2 proficient user. Being very flexible and adjustable, the CEFR was designed as "a basis for reflection and communication …a common point of reference" (Saville 2005). There is a scope of research into the ways how the CEFR underpins language education (Harsch 2014). It is beyond the scope of this study to explore the relationships between IELTS and the CEFR as they are extraordinarily complex (Taylor 2006).

There has been much critique since the introduction of the CEFR in 2001 to refine it by paying more attention to the descriptors, strategies, individual contexts and local learning needs (Alderson 2007; Díez-Bedmar 2017). During its development, the CEFR has undergone a series of revisions (1996, 1998, 2001) with the descriptors being more clearly defined and the strategies and concepts being specified and broadened (Piccardo et al. 2019). In 2018 the new volume was published where profound changes were presented with the focus on mediation (the CEFR/CV 2018). The new companion volume companion (CV) refined the general pedagogical vision of the framework and made it more understandable, clearly and flexibly applicable for teachers to use in everyday class practices. On the other hand, it broadened and deepened the interpretation of mediation and interaction.

2.2. Mediation in Language learning

The concept of mediation was not new for the CEFR as it was presented in the previous volume in 2001. Being used in a variety of contexts from political discourse to multicultural studies, this concept was reconsidered and reconceptualized in the new vision of strategic approaches to teaching and learning languages (North & Piccardo 2017). Mediation is considered as the fourth mode of communication alongside reception, production and interaction (Council of Europe 2001).

Figure 1. Mediation in the CEFR, 1998 edition



Source: The CEFR, 1998 edition

Mediation is viewed as a social process where it is used for scaffolding, enhancing communication, solving conflicts or co-constructing the meaning (Wood et al. 1976). According to the CEFR/CV, mediation is a more complex multifaceted phenomenon which should not be restricted to the process of transmitting the information or counselling in solving conflicts. The mediation is viewed from two categories which depict its dual nature: relational mediation (establishing and managing interpersonal relationships) and cognitive (enhancing access to knowledge) (Piccardo et al 2019). In the context of education, it involves engaging and scaffolding students in the process of appropriating knowledge in interpersonal relations based on collaborative goal-oriented tasks. The meaning is co constructed in interaction where learners are social agents who constantly move between individual and social levels that makes understanding of mediation close to social constructivism theories (Piccardo et al 2019). Overall, the approach to mediation has been broadened: in addition to text mediation, the new volume provided the scales for mediating concepts and communication which are 19 in number with 5 scales for mediating strategies Besides there are two new scales for interaction activities: online conversation and discussion and goal-oriented online transactions and collaboration.

There is a scope of research devoted to the concept of mediation in language learning in general Gibbons 2003; Thompson 2013) where mediation is viewed from socio cultural perspective and underpinned by the categories of ZPD, scaffolding, collaborative interaction (Lantolf 2000 cited in Gibbons 2003 p 248). Much research has explored the role of technology as a mediation tool in language learning (Li 2006; Thorne 2008; Levy 2013) and particularly wiki mediated environments in L2 (Storch, 2011; Ng 2016). Overall, much focused is made on teacher's role in creating mediated environments (Gibbons 2003) and wiki technology for collaborative writing (Miyazoe 2010; Lin 2011). Due to the introduction of new descriptors into the CEFR and pedagogical potential of wiki in L2 (a second language) there arises the necessity to refocus research attention to wiki as a learning platform for mediation and online interaction in exam training.

2.3. Wiki as an educational technology for English teaching and learning

Wiki-technologies have been actively used by teachers to achieve the aim of collaboration and active equal participation in English learning activities (Li 2012). Wiki sites are proposed as an effective scaffolding platform to support L2 teaching and learning (Lin & Yang 2011). Scaffolding is a form of learner support provided in a variety of ways, assigning several roles and responsibilities for students and other participants in the educational environment (McLoughlin, 2002). Wiki sites can be used to solve various teaching problems: support of collective cognition (Lund 2006); collaborating for language learning and peer activity (Ng 2016); collaborative writing and students' interaction (Li 2012; Miyazoe 2010). The technology provides participants with the opportunity to download and upload the information, to get an easy access to the materials, to do projects collaboratively (Kessler 2009). Speaking generally, wiki creates "architecture of participation" in shared learning spaces (O'Reilly, 2004) or some type of community of practice where the knowledge is developed collectively, and the practice can be improved due to collective sharing (Warschauer 2007). Being underpinned by the idea of collaboration, wiki sites are an open multimodal space where mediation activities can be designed by the teacher and practiced by learners. As Achterman (2006) noted, the structure of a wiki provides meaningful interaction among students, content and teachers. In other words, wiki collaborative environment provides an opportunity for students to learn how to work with others and how to create a community (Kessler 2009; Reinhardt 2019). The examples of this type of deployment are web-quests, wiki-sites or Google forms which can be used to support an English course and facilitate (teacher-students) T-S interaction (Hu & Johnston, 2012; Hung, 2015).

Google sites, as a free open tool, are used for educational purposes, though there is little research reporting the deployment of this technology. Despite a shift of current research in L2 towards social media (Reinhardt 2019), there is scarce literature to inform about the mediation aspects of wiki-enhanced learning. It implies addressing the issue of how exactly a wiki site can scaffold students' mediation activities and tasks designed intentionally by the teacher to increase collaboration and more student engagement in online interaction. The overarching **research question** is the following:

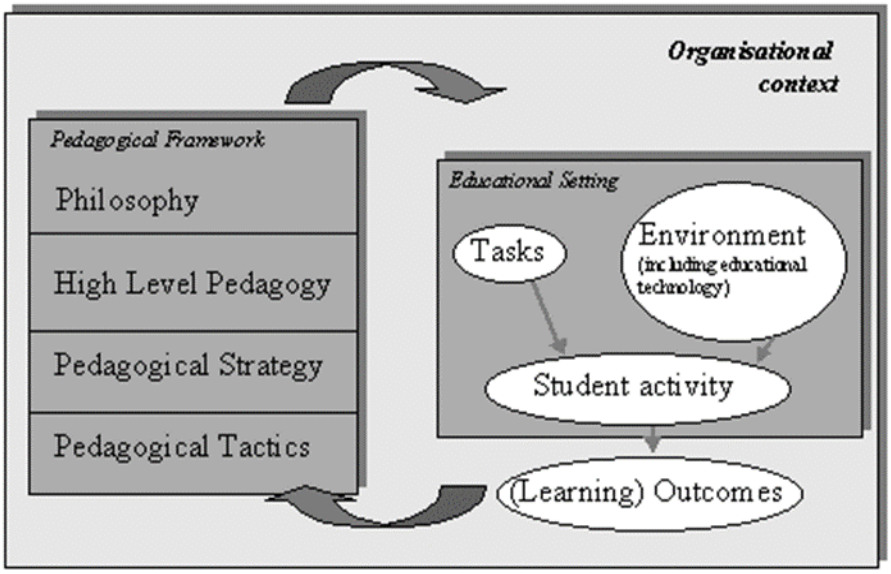
What are the students' experiences of using a wiki site for mediation activities and online interaction to support English learning?

3. Theoretical framework underpinning the project design

Viewing learning through the lens of connections between the learners as social agents, learners and tutors, and learners and wiki-mediated resources resonates with networked learning (NL) approach. In this proposal, I would use the following definition of NL (Goodyear 2005 p 18): "Learning in which information and communication technology (ICT) is used to promote connections: between one learner and other learners, between learners and tutors; between a learning community and its learning resources".

NL will be a theoretical framework to view the teaching practices based on social interaction and connections between the participants and the resources (Goodyear 2005). The nature of learning happening in a social collaborative space such as a wiki site can be defined as a networked collaborative e-learning space which is based on well-articulated values and beliefs that underpin this study (McConnell 2002; Hodgson et al., 2012): collaboration and dialogue in the learning process which takes place in communities or groups; self-determination and reflexivity of NL processes, the central place of differences and connections formed by weak and strong ties which is expressed in different modes of participation; changing role of students and teachers; mediating function of the technology. Such type of learning involves a community which is intentionally designed by the tutor as an educational space following the principles of knowledge building resulted from an intentional goal-oriented interaction between students (McConnell 2002). Goodyear's conceptual pedagogical framework (Fig.2) will be used to describe the key interactions between the context and the educational activity. This framework is a conceptual representation of common themes as abstract concepts in educational intervention and it is used to conceptualize different approaches to NL (Goodyear 2005).

Figure 2. Pedagogical framework, educational setting, organizational context (Goodyear 2005)



Source: Goodyear, 2005.

The pedagogical framework consists of three hierarchically connected layers that will be analyzed through a concrete activity in a discipline based educational setting:

- Philosophy (ontology and epistemology)
- High level pedagogy (broad approach)
- Pedagogical strategy (educational technology)
- Tactics (methods).

The educational setting is intricately connected with the methodology of the research and would include the description of the research site, the participants' needs and their activity. The organizational context is represented with the illustrative descriptors for mediation and online interaction and the curriculum requirements. The philosophical underpinning for the research is pragmatic worldview as I am striving for understanding how my educational intervention (a wiki site for English learning and exam preparation) is perceived and experienced by learners. The pragmatic worldview does not restrict the research to either quantitative or qualitative approach (Creswell 2014). Pragmatism is based on understanding the research being problem- centered and embedded into social, historical and other contexts that is in line with socio cultural theory. In terms of high-level pedagogy, the project is viewed through a lens of NL as a collaborative activity. In the research knowledge creation is viewed through multiple formats of collaboration and different kinds of mediation activities among the members of a wiki-based learning community. Ontologically, learning and teaching in NL spaces is socio-culturally influenced and constructed. The epistemology of NL is in viewing knowledge construction in a relational dialogue or collaboration (Hodgson et al. 2012).

4. Methodology and methods

4.1. Research design

An investigation of students' experiences involves designing a wiki mediated learning space based on the principles of networked collaborative e-learning. In the proposed project a wiki site will be created using Google platform which is chosen for its ease of use, availability, the participants' and my personal experience of using Google products (wiki sites, google forms, web mails, search engine, cloud storage, a language translations service etc) (Lyashenko 2016). Besides, the wiki site will be combined with social networking sites, educational YouTube channels and other technologies such as Quizlet.com and Wiser.me. The pedagogical design is underpinned by key principles of networked collaborative e-learning (McConnell 2002).

Table1. Wiki community model (adapted from McConnell, 2002)

Model of a wiki community	
Learning process	Students' problems are the source for social collaborative dialogic learning
Role of student	Active constructor and a co-presenter. Viewed as diverse individuals having weak and strong ties
Role of teacher	Facilitator critical observer and co-experts
Assessment	Collaborative self-peer-teacher
Learning outcomes	Creation and sharing expertise/ mastery of skills
ICT used	Wiki site

Source: McConnell, 2002.

The participants are 2nd year students in Minin University who were invited to join the community on a voluntarily basis. The rationale for joining and the potential learning benefits along with the design of the learning community will be explained in advance and one week will be given as a trial period to decide on joining or not. Besides, before launching the community, the students will be asked to answer closed questions via an online survey instrument SurveyMonkey (https://ru.surveymonkey.com/home/) to determine students' needs and expectations from the project (RQ1). The questions cover the design of learning tasks (specification / management/ skills/ frequency of tasks etc.) (Goodyear 2005). The research consisted of several stages that can be presented by the timeline (Table 2).

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Table 2. Timeline showing the design strategy and the researcher's role

Stage/period	Objective	procedure	Product	Role
1.Preparatoty	Task analysis stage, designing the community, inviting the participants	• Curriculum analysis • Descriptors analysis • Designing the survey of Students' needs (RQ1) • Refinement of the previous project	on-line survey (quantitative data)	Designer researcher
2.Quantitative	Needs assessment Embedding quantitative data to inform pedagogical design	Engineering wiki site	Literature review Pedagogically driven DBR	Designer Researcher Teacher
3.Development	Active working of the community	Mediation activities and online interaction	Teacher-peer interaction	Designer Researcher Teacher Participant
4.Qualitative	Data collecting	• Open-ended paper-based interview • Open-ended Survey2	Qualitative data	Researcher

Source: Author.

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4.2. Data collection methods and analysis

This paper describes the fourth stage of the research design. The method chosen for data analysis was based on qualitative methodology. The data was gathered through oral interviews and video recording via Zoom after the final exam and the course completion. Semi structured interviews were conducted with the students from Minin university who voluntary agreed to take part in the research. The invitation was prior sent to the participants where the purpose of the research and the format of the interviews were described by the researcher. The research question was focused on the way how the students perceived their learning experiences of using a wiki platform to study English during the pandemic period. The questionnaire consisted of six parts covering the following aspects: general impression, working with the text, collaborative tasks, wiki for discussion and interaction, ethics of wiki enhanced learning, students' recommendations, and ideas. The average length of an interview was about 38 minutes. The interviews enabled the researcher to analyze deeply students' perceptions concerning not only the language aspect but also psycho-pedagogical factors that could impact students' academic performance and motivation. The interviews (N=5) were video recorded with the permission of the participants, transcribed and then analyzed manually to identify basic convergent themes. The qualitative data was analyzed using Creswell's approach to qualitative methods and Tesch's eight steps in the coding process (Creswell 2014). Each student was given a code to avoid a biased attitude when analysing the data: for example, student 1 (S1). The analysis resulted in several themes which enabled to develop and propose a theoretical model of a wiki enhanced learning in the professional teaching and learning. The convergent themes were identified: tasks, collaboration, communication, assessment and motivation. These categories are logically connected following the course design. It must be started with carefully created and goal-oriented tasks that would engage design students in collaboration with peers and teacher-students communication. The final stage is the necessity of the assessment with the impact on extrinsic motivation of students. The synergy of these e is reported to influence indirectly also intrinsic motivation of students by appealing to their affective domains of learning (Skorodumova et al. 2020). The tasks can be represented in a variety of forms and formats: from examples and model answers to group collaborative projects. The students report the importance of having all resources in one place and having an open access to others' works. Besides, the tasks must be presented in a clear and a structured manner with visual aids to remember new words or information more quickly. *"The access to other papers was useful to know more about the peer's interests and .. sometimes to borrow their language" (S3). " It is a plus that you always have an access to all the materials… an all links are in one place" (S1).*

Collaborative projects arouse great interest among the design students for various reasons. The respondents reported the novelty of the idea (S2; S4), professional direction of learning materials (S1); the opportunity to present one's own works and to see the others' (S4; S5). Overall, the respondents described these tasks as "interesting" and useful "design experience" (S1;S5;S3) in terms of editing, formatting, working with color and different fonts. The most interesting collaborative projects were named Art gallery (https://sites.google.com/view/art-and-design-mininuniver/art-gallery?authuser=0) and A Book cover (https://sites.google.com/view/art-and-design-mininuniver/group-18-1/my-favorite-book-cover?authuser=0). These projects were perceived as engaging and motivating. Collaboration was based on communication with the teacher and the peers. This theme describes the nature of wiki enhanced communication as asynchronous with no or little online and sustained interaction. The respondents report scarce chances of online discussion or chatting. According to the findings, communication must be of academic style with the teacher being a moderator and a facilitator of group activities. An interesting finding can be the sense of belonging that was experienced by the students doing the tasks. The students characterize communication via wiki as "friendly" "peaceful" and "safe" due to the teacher's presence and the academic nature of the tasks given. All the problems or disagreement were solved using a social networking site Vkontakte in order not to distract others from the academic context. "*It was interesting to read the comments of students and to see that my comments are read too" (S3). ".. that was one common goal, common motivation that made us closer to each*

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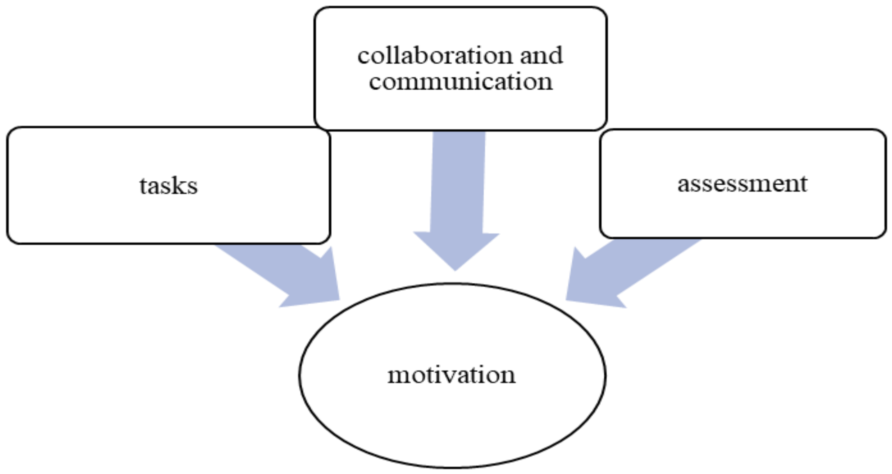
other" (S2). " …that was not pure supervision but the form of a friendly conversation as if it were a consultation or advice" (S4).

Despite the feeling of parity and freedom of self-expression all the participants state the importance of assessment, though there is no full agreement about the necessity of deadlines. The assessment must be underpinned by clear criteria which are known to students A model answer or the teacher's recommendations can be extremely helpful in understanding the task properly. The students liked the idea of peer review as in Moodle or in an offline class this format is limited to some extent. Assessment is extrinsic motivation, whereas a transparency of grades makes this process extremely competitive and stimulating in terms of inner motives (Dunaeva 2020). *" If there were no grades, we wouldn't do anything…we'd better relax doing nothing" (S1) When I saw 100 grade for the answer, I got the understanding of the way how to improve my paper and there was a stimulus to get the same result" (S3).*

The final theme that emerged after the data analyses was motivational sphere. Overall, the students described their experience as positive and useful because wiki enhanced learning provided new learning opportunities in comparison with the traditional teaching and learning: more freedom of designing your own learning space by choosing images, fonts and colors; an open access to other's works; the idea of ownership and a learning community; a visually appealing site that can be co-created together with the peers and the teacher; parity and consultation with the teacher who is an active participant of the process; peer assessment and constant individual feedback on every project from the teacher; any time access to all the materials being stored in one place (videos, glossary, model answers, course statistics etc.); variety of ICT embedded into teaching via wiki (Google forms, YouTube, Quizlet, Vkontakte etc.).

The themes identified can be grounded in the theory of Teaching- Learning Cycle (TLC) involving 4 key stages: building the context-based tasks- modelling the situation- guided practice and independent construction (Derewianka 2016). Assessment and feedback are integral parts of the guided practice. The interconnected links between the themes can be presented by a theoretical model of a wiki enhanced professional learning of students where the first stage is associated with the task design, the second requires modelling situations of collaboration and communication via wiki, the third is connected with assessment both the teacher's and the peers and the final stage is reflecting and analyzing the learning outcomes which are stimulated either by intrinsic or extrinsic motivation. The interconnectedness between the identified themes characterising students' experiences can be visually presented by a theoretical model of a wiki enhanced professional learning of students.

Figure 3. A theoretical model of a wiki enhanced professional learning of students



Source: Author.

5. Conclusion

The findings and the results from the data analysis are believed to contribute to different aspects of language learning. The possible pedagogical value of the research can be the following: i). provide more opportunities to improve skills in ESP course by scaffolding students in collaboration and interaction; ii). engage learners in decision making and reflection about their learning through wiki and consequently increasing students' autonomy (Kessler 2009); iii). empower students to strengthen their voices in a variety of collaborative forms that can be offered by wiki in combination with other digital forms of communication; iv). create conditions for more inclusive educational environment given the variety of perspectives, patterns of participation, a safer environment which is built on trust, partnership, respect, equal distribution of power, freedom of speech, active learning and other ethical principles for supporting community (Li 2012). The students are believed to benefit from the collaborative activities in a number of ways. Firstly, wiki enhanced learning can bring empowerment gains (Hart 2006). Being involved in a learning community based on parity and co construction of knowledge, students are likely to strengthen their voices in a variety of collaborative forms that can be offered by wiki technology in combination with other digital forms of communication. Secondly, there are some academic gains for students at an undergraduate level. They are likely to benefit from the exchange of knowledge with peers and a more experienced researcher/ teacher (Derewianka 2016). New digital or communicative skills can be acquired or improved in collaborative activities (Ripley 2008). Thirdly, this project can result in interpersonal communication gains. New forms of teacher-students' relationships in a collaborative learning environment are not linear and hierarchical as traditional classroom teaching (Fluehr- Lobban 2008). The research addresses the necessity and describes an attempt to transfer collaborative tasks for English professional training of design students into non-traditional informal settings in the university educational environment (Harasim 2000). The theoretical model and the gains outlined in the research can inform teachers' choices in designing and implementing wiki sites in teaching English for professional communication. The study is expected to contribute to the field of research by providing an alternative way of describing design students' experiences and presenting a holistic view on design students' perceptions of using a wiki based learning community in professional language training. This perspective moves away from just good or bad experiences of students. The future research can be directed to analysing such interaction within the university educational environments using other methodological approaches.

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MONIA HOUICHI[1], MAKREM JANNADI[2], KHALED BEN DRISS[3] AND INES ABDELJAOUED TEJ[4]

APPLICATION OF KPI FORECASTING METHODS FOR ENGINEERING RECRUITMENT

Abstract

As part of the improvement of recruitment processes and to provide information on the existing Information technology (IT) field in Tunisia, our work seeks to predict the evolution of some Key Performance Indicators (KPIs) based on classical forecasting methods (SARIMA) and Deep Learning (LSTM). First of all, it is a question of analyzing a NoSQL database of applicants' resumes collected and pre-processed by the WEVIOO-Labs department. The initial data consists of a sample of extracted resumes in a JSON format, that describe the background and skills of each candidate. We have identified KPIs based on profiles, skills, location, duration of experience within the company, and academic background. They will be useful for human resources and beneficial for the choice of candidates. Subsequently, we have prepared time series for some of them such as the number of candidates in Tunisia, the number of confirmed candidates and the number of senior candidates. Then we applied for each time series the SARIMA method after having carried out the decomposition of the series and the LSTM method after having carried out certain preparations like making the series stationary by differentiation. We found that SARIMA is more adapted to our case and gave a good quality of prediction. We selected SARIMA(1,1,2)(0,2,2,12), which means that the auto-regressive order is 1, the order of difference is 1, the order of the moving average is 2, the seasonal auto-regressive order is 0, the seasonal order of difference is 2, the seasonal moving average is 2, and the seasonal period is 12, with an error measure RMSE=73.04 in the case of forecasting the number of candidates in Tunisia. In the case of forecasting the number of confirmed candidates, we retained SARIMA(2,1,2)(0,2,2,12) with a value of RMSE=41.27. While the LSTM method required more data preparation and provided a relatively high error rate. Indeed, by applying LSTM and after optimization of the hyper-parameters, we obtained for the series of number of candidates in Tunisia an error value RMSE=268.5 and for the series of number of confirmed candidates a RMSE=117.44.

Keywords: Recruitment, Forecasting, KPIs, LSTM, SARIMA

JEL Codes: Z00, Y80

1. Introduction

Human resources are the strategic asset that mainly manages the development of recruitment processes which is at the origin of all the company's successes. The coexistence of large amounts of data and their exploitation in the sense of KPIs can be used to improve the recruitment process within the company while keeping the spirit of forecasting. This spirit which today builds a fundamental technique in the direction of companies in order to forecast future needs[10].

Moreover, companies use this principle to achieve several objectives in the field of recruitment using different statistical and Machine Learning methods.

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One of these use cases is the use of statistical methods such as ARIMA and SARIMA to forecast the employment situation in the IT industry in China, i.e. to know the evolution of the number of recruitments in 2008, based on previous years, as well as the number of job searches. Similarly, the SARIMA method was used for the same purpose in a study in Turkey to analyze the state of employment and build adequate models that estimates it in the future[4]. And it has been found that these models are applicable only when aiming at short-term forecasting[14].

As such, the U.S. uses a model that combines the LSTM network and the recurring gate unit (GRU) to forecast the level of employment in the U.S[7] and it has been shown to work better than conventional statistical methods. It can be concluded that the classical methods are generally widely used in econometric and little used in the recruitment field due to the revolution of Deep Learning methods in this area. Another study was based on LSTM networks in order to preview the arrival interval as well as the aggregated calculation of job applications in the cloud computing cases. In this case, the evaluation of the LSTM model proved to be more efficient than the known methods used such as the auto-regressive model[15]. It can be said that the existing recruitment methods do not consider the future of the existing in the IT field with a long-term reflection.

The objective of this study is to introduce the temporal aspect in order to forecast the state of the existing and to know the evolution of some key KPIs in the decision-making process in the recruitment field. This paper will first present the theory of the classical SARIMA prediction method, then we will explain the architecture of a neural network LSTM. Thereafter, we will talk about the data to be used and then we will present the results given by these two methods in terms of precision.

2. Seasonal Autoregressive Integrated Moving Average: SARIMA

Clearly, for most economic series, the stationarity hypothesis is invalid, which is why the choice of the SARIMA forecasting method was made. It presents a combination of the autoregressive model AR[9] and a moving average model MA[9], which are widely used in the case of time series prediction, a differentiation part, which builds the ARIMA model, and also considers the seasonality. In other words, the SARIMA process models the next step of the sequence by combining the ARIMA process with the possibility to perform the autoregression, the difference and the moving average at the seasonal level[5]. It is denoted

SARIMA$(p, d, q)(P, D, Q)^s$, where p is the auto-regressive order,d is the order of difference, q is he order of the moving average, P is the seasonal auto-regressive order, D is the seasonal order of difference, Q is the seasonal moving average and s is the seasonal period. It satisfies the following equation:

$$\varphi_P(L^s)\varphi_p(L)(1-L)^d(1-L^s)^D X_t = \boldsymbol{\theta}_Q(L^s)\boldsymbol{\theta}_q(L)\varepsilon_t \tag{1}$$

where $\boldsymbol{\theta}_q \neq 0$, $\varphi_p \neq 0$, φ and $\boldsymbol{\theta}$ are two polynomials of respective degrees p and q, L is the lag operator defined by

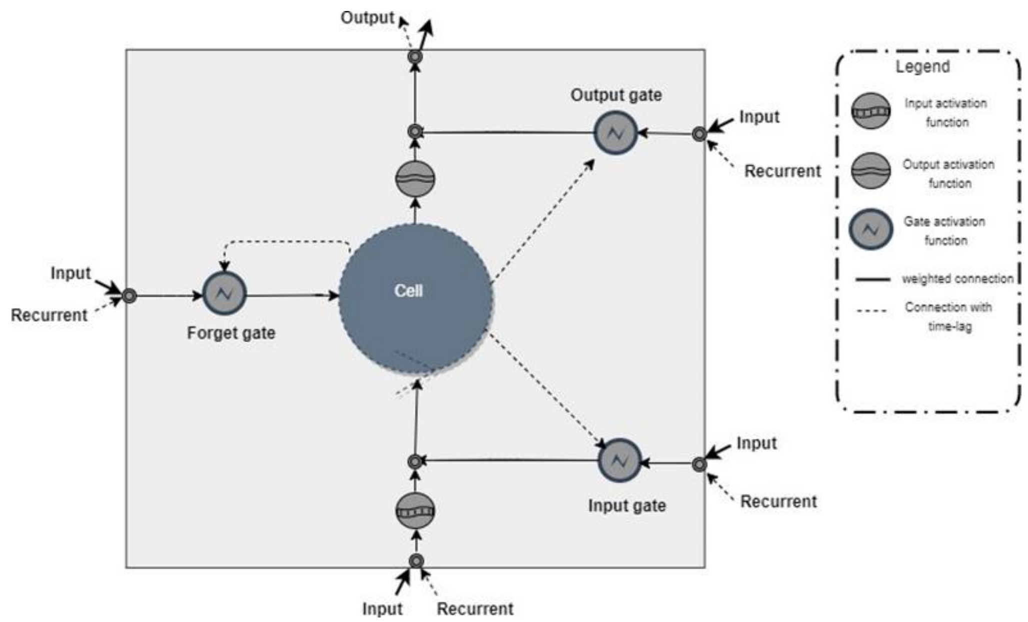
$$L\,(X_t) = X_{t-1}$$

and ε_t is a white noise denoted by $\varepsilon_t \sim \mathrm{WN}(0, \sigma_\varepsilon{}^2)$. It is defined by $E[\varepsilon_t] = 0$; $E[\varepsilon_t{}^2] = \sigma_\varepsilon{}^2$, $E[\varepsilon_t\,\varepsilon_s] = 0\ \forall t \neq s$[1].

3. Long Short-Term Memory : LSTM

Recently, recurrent neural networks (RNNs) have shown great promise in time series forecasting. In particular, the LSTM network, which presents the most widely used variant of RNNs, transmits more information via recurrent connections and this is due to its particular structure called the LSTM block. An LSTM block can be presented by the architecture in Figure 1.

Figure 1. Architecture of an LSTM block



Source: Authors.

The essential element of the LSTM is the memory cell whose content is modulated by an input gate and a forget gate and this is the central concept that allows the network to maintain the state over time, where the input gate protects the unit (block) from irrelevant input events and the forget gate helps the unit to forget the contents of previous memories[12]. The LSTM unit also contains, an output gate that exposes the contents of the memory cell, two activation functions at the input and output of the block and generally it is a *tanh* function and peephole connections. Then, the output of each LSTM block is recursively connected to its input and gates.

In practice, it is important to consider the different hyperparameters of the LSTM model which are:

- n-lags: The number of lagged observations to be used as input to the model.
- n-epochs: The number of times the model is exposed to the learning data set.
- n-diff: The order of difference.
- n-batch: The number of samples in a time period after which a weight update will be performed.
- n-neurons: The number of LSTM units in the hidden layer[6].

In both cases of modeling via SARIMA and LSTM, we will optimize the hyperparameters using the Grid search method[2]. The evaluation of the model is made according to walk-forward validation[8] which will be accompanied by the measurement of RMSE error and will be used to know the accuracy of the forecast. Indeed, the root mean square error (RMSE) is one of the best methods for statisticians to understand the quality of forecasts. It measures the differences between the values predicted by the model and the observed values:

$$\text{RMSE} = \sqrt{\frac{1}{\text{n}} \sum |e_t{}^2|} \tag{2}$$

with $e_t = \hat{X}_t - X_t$ is the residual of the model, n is the number of observations, X_t is the observation at instant t and $\hat{X}_t$ is the predicted value at instant t[11]. The lower the value of these criteria, the better our prediction. There are other error measurements such as MAPE and MAE[3] but in our case we used RMSE.

4. Dataset

The starting data are the CVs of the candidates. It is divided into 3 collections: companies, candidates and universities. We are interested in the collection of candidates, which describes for each candidate his or her academic and professional background, skills and start and end dates for each job experience. Based on the existing dates, we have built monthly time series describing the number of candidates located in Tunisia, the number of confirmed candidates and the number of senior candidates as shown in the example in Figure 2.

Figure 2. Example of the time series of the number of confirmed candidates

...	...	...
622	2019-08-01 00:00:00	5849
623	2019-09-01 00:00:00	5862
624	2019-10-01 00:00:00	5903
625	2019-11-01 00:00:00	5811
626	2019-12-01 00:00:00	5649

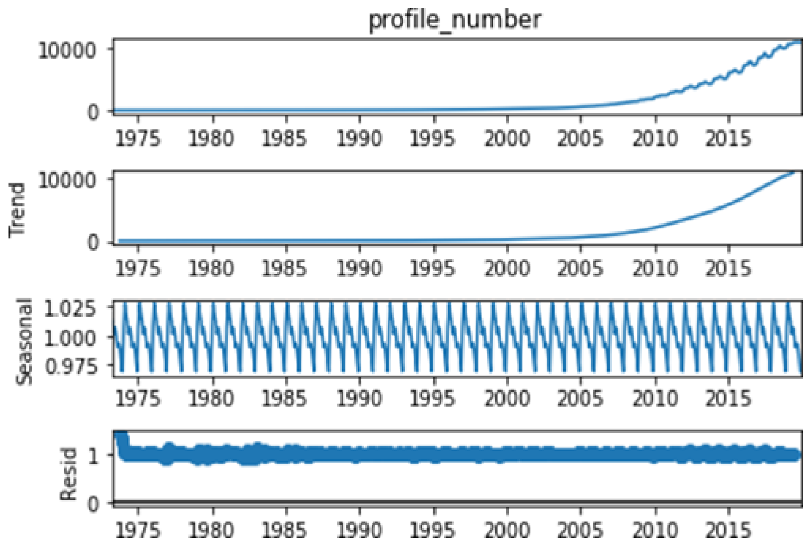
Source: Authors.

5. Forecasting using SARIMA and LSTM

Before proceeding with the modeling, we have carried out the decomposition of the different time series and we have obtained that not all series are stationary. They all show a trend and seasonality as shown in the example of the Figure 3 of the series of number of candidates in Tunisia. Thus, the residuals show a high variability over time.

Hence the SARIMA method is the most appropriate in our case.

Figure 3. Decomposition of the number of candidates in Tunisia



Source: Authors.

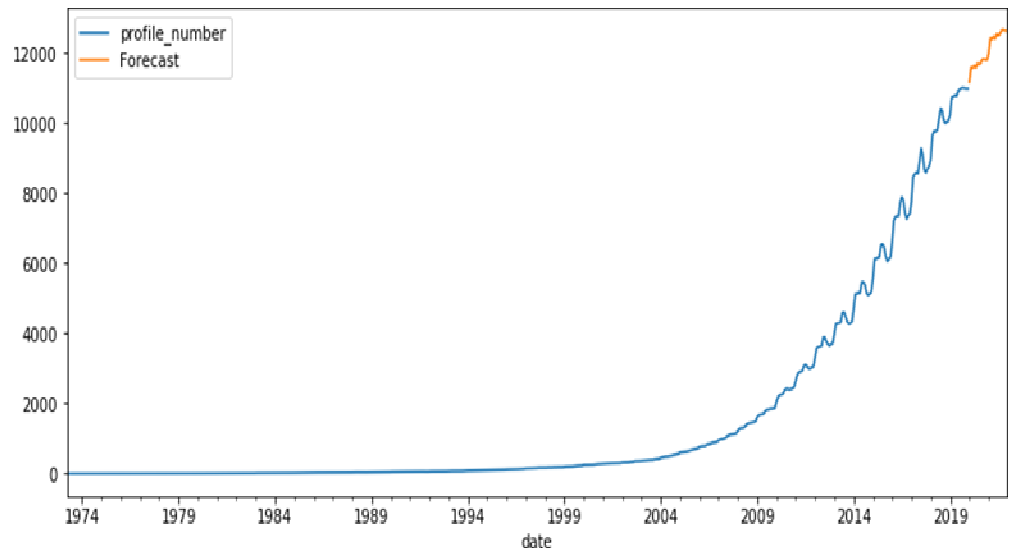
5.1. Forecasting using SARIMA

In this section, we will proceed with the implementation of the SARIMA method for time series.

5.1.1. Number of candidates in Tunisia

By applying the SARIMA method and following the principle of Grid search we have retained for the series that models the number of candidates in Tunisia $SARIMA(1, 1, 2)(0, 2, 2, 12)$, which means that the auto-regressive order is 1, the order of difference is 1, the order of the moving average is 2, the seasonal auto-regressive order is 0, the seasonal order of difference is 2, the seasonal moving average is 2 and the seasonal period is 12. We extracted the error measure: $RMSE = 73.04$, with a mean value of the observations of 1505, which is relatively low. Figure 4 shows that, looking at the history between 1974 and 2019, the number of candidates tends to increase in 2020 and 2021.

Figure 4. Forecasting of candidates number located in Tunisia



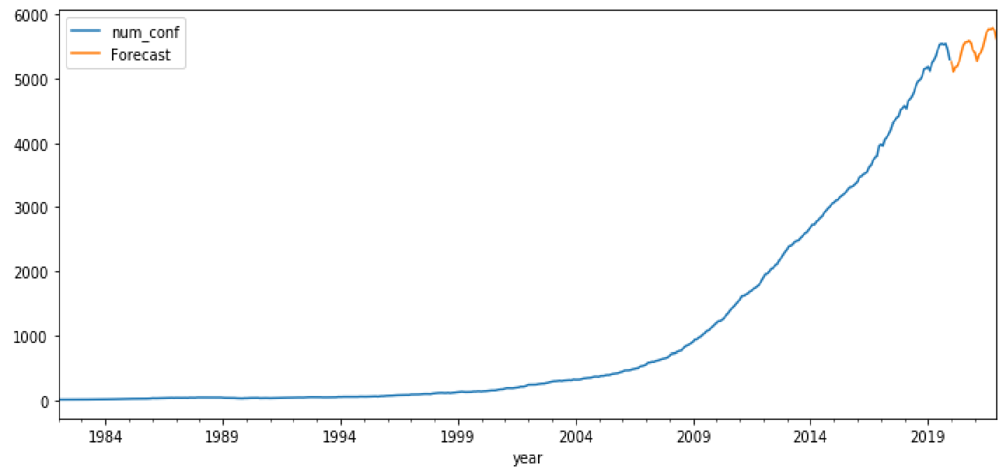
Source: Authors.

We note that here the x-axis shows the years and the y-axis shows the number of candidates in Tunisia.

5.1.2. Number of confirmed candidates

Following the same principle, we have chosen the $SARIMA(2, 1, 2)(0, 2, 2, 12)$ for the series of the number of confirmed candidates, which means that the auto-regressive order is 2, the order of difference is 1, the order of the moving average is 2, the seasonal auto-regressive order is 0, the seasonal order of difference is 2, the seasonal moving average is 2 and the seasonal period is 12. We have subtracted the error measure: $RMSE = 41.27$, which is also relatively low, with a mean value of observations of 978.73. Figure 5 illustrates an interesting variability in the number of candidates. However, it is expected to increase in the next 2 years.

Figure 5. Forecasting of confirmed candidates

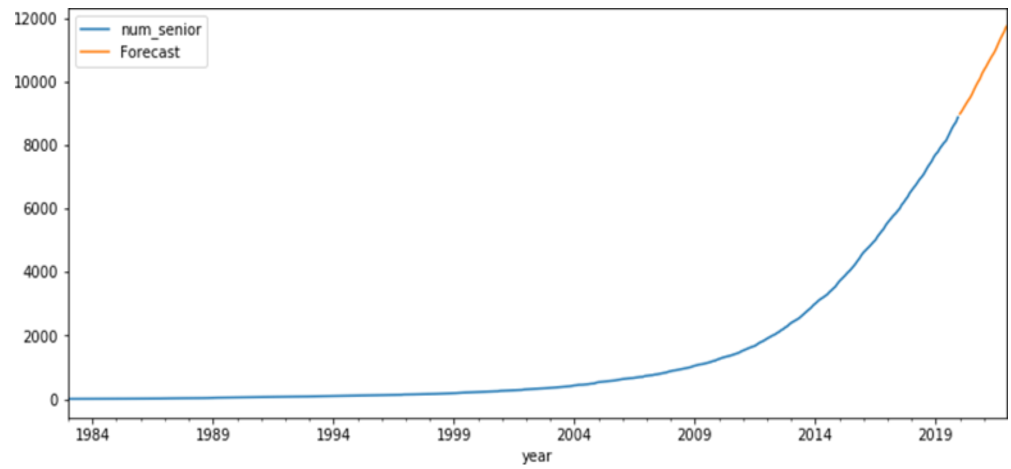


Source: Authors.

5.1.3. Number of senior candidates

Regarding the number of senior candidates we have obtained $SARIMA(1,\ 1,\ 1)(1,\ 1,\ 1,\ 12)$, which signifies that the auto- regressive order is 1, the order of difference is 1, the order of the moving average is 1, the seasonal auto-regressive order is 1, the seasonal order of difference is 1, the seasonal moving average is 1 and the seasonal period is 12. We got $RMSE = 12.86$ with a mean value of the observations of 1315.82. So, the error is very small. The result of the forecast for 2 years in the future is shown in Figure 6.

Figure 6. Forecasting of senior candidates



Source: Authors.

The number of candidates with more than 5 years of experience is estimated to increase over the next two years.

5.2. Forecasting using LSTM

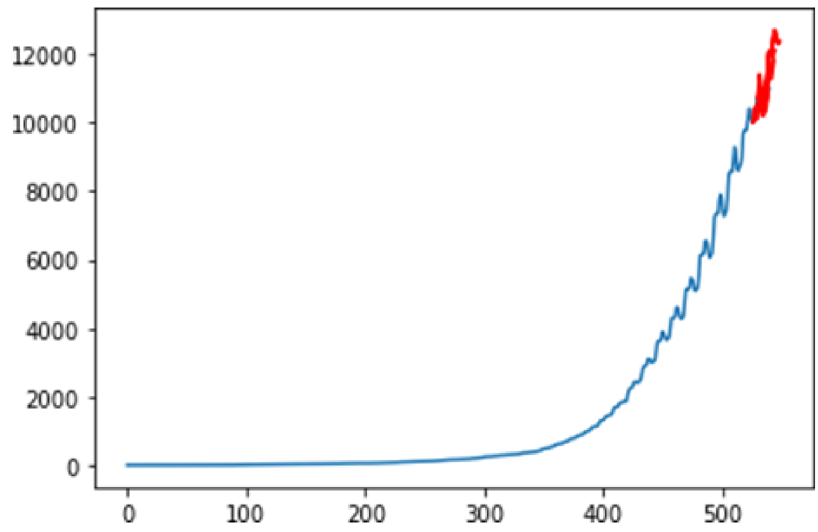
We also applied the LSTM method to the previous series. We proceeded with a multi-step LSTM model since the data is monthly and we need to forecast at least one year into the future. It is a simple structure LSTM network which contains a single hidden layer with 12 LSTM units and an output layer with linear activation and 12 output values. We have optimized the hyperparameters also via the Grid search method and the evaluation is performed through walk-forward validation.

Contrary to the SARIMA model, before training the LSTM model, a data preparation is necessary. After devising the data between train and test, the series must be made stationary by applying differentiation and the values must be scaled down to be between -1 and 1 to meet the default `tanh` activation function of the LSTM model. Next, the series must be transformed into a supervised learning problem.

5.2.1. Number of candidates in Tunisia

After having carried out the various preparations and optimized the hyperparameters, we have selected a LSTM model including: `n-lag`=12, `n-batch`=1, `n-epochs`=100, `n-neurons`= 50, `n-diff`=1. The evaluation gives a value of $RMSE = 268.5$ which is a high value. If we consider Figure 7, we can see that the predicted and actual values are not very aligned.

Figure 7. Predicted values compared to actual values for the number of candidates in Tunisia for the LSTM model



Source: Authors.

5.2.2. Number of confirmed candidates

Concerning the number of confirmed candidates, the Grid search gave us the following values of the hyperparameters: `n-lag`=12, `n-batch`=1, `n-epochs`=1000, `n-neurons`= 10, `n-diff`=1. The evaluation of the model according to walk-forward validation gives a measure of error *RMSE* = 117.44.

5.2.3. Number of senior candidates

As for the time series of the number of candidates with the senior profile, we selected the LSTM model with the following hyperparameters: `n-lag` = 12, `n-epochs` = 500, `n-batch` = 1, `n-neurons` = 50, `n-diff`=2. The evaluation of the model gives a value of *RMSE* = 87.7.

6. Conclusion and discussion

Given the existence of data and the need to process them in real time in order to improve the recruitment process in the IT field in Tunisia. The goal of presented research is to follow the evolution of some KPIs by applying the classical forecasting method SARIMA and then that of Deep Learning LSTM. The research presented the cases of use of the LSTM and SARIMA methods in the field of recruitment and then the theory of each of these methods. Subsequently, we prepared time series that model the number of candidates based on a sample of the provided database.

We can conclude that in the case of KPI forecasting, such as those studied, classical methods are easier to implement, very precise and serve to achieve our objective. As far as the LSTM network is concerned, the result was not relevant, which leads us to think of a way to improve the quality of forecasting and minimize data preparation before implementing the LSTM model. However, there are more cases of use of neural networks in this field (although they are also few in number). One of these studies shows that RNN neural networks can be used to adapt candidates to jobs by proposing a person-job adjustment model, and this was done on the basis of a recurrent neural network (RNN) of the Bi-LSTM type. It has been used to identify the semantic presentation between the requirements of a job and the experiences of the candidates. This is thanks to the advantages given by this type of BiLSTM networks which can better understand the context showing its benefits in many different text mining tasks[13].

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(with endnote numerations into the text)

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SAMAH SOULEH[1]

UNIVERSITY-INDUSTRY LINKAGES: CASE OF THE UNIVERSITY OF BISKRA-ALGERIA

Abstract

This paper aims to examine the main question: What is the situation of the university-industry linkages at Biskra's University from the prespective of research community? To answer this problematic, we started our paper with a theoretical part to define university and industry linkages. Then, we explained how the data was collected, and we drove to an analysis and a discussion about the data collected. This paper has used the first results of a survey about the university-industry linkages in Biskra's University as a case study.

The majority of responses to the survey confirm that there are no interactions with the industry. The paper concludes with some suggestions and recommendations to provide directions for future studies.

Keywords: Linkages university-industry, Biskra's University- Algeria

JEL Codes: I20, I21, I25, I29

1. Introduction

The research university plays an important role as a source of fundamental knowledge and, occasionally, industrially relevant technology in modern knowledge-based economies. In recognition of this fact, governments throughout the industrialized world have launched numerous initiatives since the 1970s to link universities to industrial innovation more closely. Many of these initiatives seek to spur local economic development based on university research (SOULEH, 2015).

In developed countries, universities, increasingly, have come to play an important role in producing original knowledge that often has commercial applications. Universities have been recognized as one of the main actors who directly or indirectly help make a nation more innovative (DATTA, SOULEH 2018).

This study aims to examine the main question: *What is the situation of the university-industry linkages in Biskra's University from the prespective of research community?* To answer this problematic, we structured our paper in the following way. First, a theoretical part is carried out to define university and industry linkages. Second, an explanation about how the data was collected, and then an analysis and a discussion about the data collected were carried out. In the final section a case study is presented based on the first results of a survey about the university-industry linkages in Biskra's University from the point of view of research community.

2. University-Industry Linkages-UILs

The various UILs take many forms, such as licensing of university intellectual property for commercial purposes to joint R&D activities. Recent categorizations address the intensity of relational involvement. In comparison to research services, which require little or no relational engagement, UILs create a

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Visit the career center of university of Biskra- Algeria on: http://cdc.univ-biskra.dz/.

networked organizational structure, because the two separate partners engage in designated research tasks, both with independent objectives yet a high level of reliance on the other party. This status implies the need for a relational approach to initiating and managing UILs (Pelewa et al, 2013).

In general the university-industry collaboration can take one or more of the followings forms:
- ✓ Consulting
- ✓ Joined research
- ✓ R& D
- ✓ Co-supervision of PhD thesis
- ✓ Professionnel Matser
- ✓ Master Bussiness Administration-MBA
- ✓ Patents
- ✓ Technology transfer

Spin offs… etc

3. Data collection

This study has diagnosed the linkages between the university and its social and economic sector from the community of research (professors and PhD student's) of Biskra's university. The study has used a survey distributed to community of research on June 2019 and these first results were studied at November 2019.

The community of research (professors and PhD student's) of Biskra's university represents a total of 4058 element, among them 1497 professors and 2561 PhD student. The table n01 shows the number of professor and PhD students in each faculty of the university.

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Table 1. The community of research and the sample of the study of the Biskra's University-Algeria

Faculties of University of Biskra-Algeria	Number of professors	Number of PhD students (1)
Institute of Science and Technology of Physical and Sports Activities	30	38
Faculty of Humanities and Social Sciences	165	246
Faculty of Economic and Commercial Sciences and Management Sciences	196	290
Faculty of Law and Political Science	125	230
Faculty of Letters and Languages	202	285
Faculty of Exact Sciences and Sciences of Nature and Life	365	609
Faculty of science and technology	414	863
Total	**1497**	**2561**
Total of Professors and PhD students of the University	**4058**	

Note: (1): PhD students of two systems: Doctorat de sicences (Old system) + Doctorat, Licence, Master, Doctorat-LMD (New system).
Source: Statistics established by the author based on the Biskra's university faculties website and the University PhD office, http://univ-biskra.dz/index.php/fr/, accessed 20 November 2019.

4. Data analysis and discussion

We have received about 138 answers from all university departments, where the biggest percentage of answers comes from the Faculty of Exact Sciences and Sciences of Nature and Life more than 33%, then from the Faculty of science and technology with more than 32%, because they have the biggest number of professors in the university; then it comes the Faculty of Economic and Commercial Sciences and Management Sciences with more than 16% of the answers as it shown in the table n02.

Table 2. The answers of Biskra's University Faculties

Faculties of University of Biskra- Algeria	**Number of answers**	**% of sample**
Institute of Science and Technology of Physical and Sports Activities	03	02.17
Faculty of Humanities and Social Sciences	09	6.52
Faculty of Economic and Commercial Sciences and Management Sciences	23	16.67
Faculty of Law and Political Science	04	02.90
Faculty of Letters and Languages	08	05.80
Faculty of Exact Sciences and Sciences of Nature and Life	46	33.33
Faculty of science and technology	45	32.61
Total	**138**	**100**

Source: Statistics established by the author based on the survey (November 2019).

Through analyzing the survey, the professors represent the biggest percentage of the study (58%) more than PhD students (21%) which represent their interest in the study. We have noticed the interest also of the professors who are heads of research teams (around 15%) and laboratories in this study (almost 07%) as it shown in the following table.

Table 3. Identification of the study sample

Identification	**Number of answers**	**% of the sample (138 answers)**
Head of laboratory	09	**06.52**
Head of team of research	20	**14.49**
Professors (professors and researcher)	80	**57.97**
PhD students	29	**21.01**
Total	**138**	**100**

Source: Statistics established by the author based on the survey (November 2019).

The table n04 shows that 55% of the sample has no interactions with the social and economical sector but they want develop some, 26% have non-official interactions with the social and economical sector, 12% have official interactions, and around 6% of the community doesn't want any interactions with the social and economical sector.

Table 4. The existence of interactions of Biskra's university with the social and economical sector

Item	**N of answers**	**% of the sample**
Yes, I have official links	17	12.32
Yes, I have non-official links	37	26.81
No, no links but I want develop some	76	55.07
No, I don't need this kind of links	08	05.8
Total	**138**	**100**

Source: Statistics established by the author based on the survey (November 2019).

The table n05 shows that 72% of the sample uses French as a language of interactions with the social and economical sector, 66% of the sample uses Arabic as a language of interactions, and 31% uses English in interactions. The community has chosen more than one answer in matter of using languages in interactions, we noticed also that using French and Arabic is the highest percentage which due to the colonized history and the culture of Algeria.

Table 5. The Language used in collaboration by the research community of Biskra's university

Language of collaboration (the sample can choose more than one answer)	**N of answers**	**% of the sample (138 answers)**
Arabic	91	65.94
French	100	72.46
English	43	31.16
Total	**243**	**/**

Source: Statistics established by the author based on the survey (November 2019).

The table n06 shows that almost 49% of the sample have evaluated the establishing of links with the social and economical sector as hard task, around 30% of the sample evaluated it as an easy task but 18% have evaluated as a very hard task, and 04% found it as a very easy task.

Table 6. The evaluation of the easiness of establishing a link with the social and economical sector

Evaluation of the easiness of establishing a link with the social and economical sector	N of answers	% of the sample
Very hard	25	18.12
Hard	67	48.55
Easy	41	29.71
Very easy	05	03.62
Total	**138**	**100**

Source: Statistics established by the author based on the survey (November 2019).

Through the study, we found that more than 43% of the sample has no collaboration with the social and economical sector during the year, 32% has one time collaboration per year, 12% has collaboration with the social and economical sector more than tree time per year, 09% has twice collaboration per year, 04% of the sample has three time collaboration as it shown in the following table.

Table 7. Number of collaboration between Biskra's university and the social and economical sector

Number of collaborations per year	N of answers	% of the sample
None	60	43.48
1 time per year	44	31.88
2 times per year	12	08.70
3 times per year	06	04.35
More than 3 times per year	16	11.59
Total	**138**	**100**

Source: Statistics established by the author based on the survey (November 2019).

The following table shows the types of collaborations between the community of research at Biskra's university and the social and economical sector, where we found that the 54% community of research at Biskra's university defined the collaboration as a student training mostly, 40% as collaboration in research, 26% as a consulting services, 07% in doing reports, 04% in collaborating in patents, and fewer percentages in other type of collaborations (seminars, conferences, sponsoring, doing projects and training). What is noticeable also that 02% of the sample does not see in collaboration between the two parties which is huge deal in the higher education sector.

The community has chosen more than one answer in matter of type of collaborations.

Table 8. Types of collaborations between Biskra's university and the social and economical sector

Types of collaborations	**N of answers**	**% of the sample**
Students training	75	**54.35**
Patents	06	04.35
Research	55	**39.86**
Reports	10	07.25
Consulting	36	**26.09**
Training	02	01.45
Seminar	01	0.72
Sponsoring	01	0.72
Project	01	0.72
Nothing	**03**	**02.17**
Total	**190**	**/**

Source: Statistics established by the author based on the survey (November 2019).

5. Suggestions and recommendations about University-industry linkages:

This study gives some suggestions and recommendations about building, maintaining and improving official interactions with the social and economical sector as follows:

- Raising awareness among the community of research about the importance of the linkages university-Industry;
- Understanding the new laws of R&D and the linakges university- industry;
- Establishing a real conventions & collaborations with social & economical sector with a plan of actions and tasks…etc;
- Offering the industry products of quality: professional training, education, expertise, round tables, workshops, seminars, etc
- Giving the administrative positions to people who already have the experience with industry;
- Establishing research theses, projects and conferences with industry with real issues in the field that get evaluated after a stric period of time and serious funding.
- Evaluating of the conventions: define who apply the agreements and evaluate the work which already done
- Working on the liaison institutions/ structures (Liaison office/ BLEU, Incubator, Technology transfer office, … etc

6. Conclusion

- Professors must do initiatives to establish a linkages with the social and economical sector of the university to benefit of these linkages in many domains as : Funding project, issues of research, R&D, sponsoring scientific events, patents, …etc;

- Also, it is up to university to prove the quality of its products: Graduates, consulting, expertise, patents, professional education and training… etc to win the trust of industry and sell its products.

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Site web of BLEU: http://bleu.univ-biskra.dz/

Site web CDC: http://cdc.univ-biskra.dz/

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FEIYAN WANG[1]

INSTITUTIONAL ARRANGEMENTS, LOCAL GOVERNMENT INTEREST AND THE REGIONAL HOUSING BOOM IN CHINA

Abstract

Real estate products differ from general commodities by virtue of their heterogeneity and externality and their status as investment goods and public goods. For that reason, market mechanisms alone cannot ensure the effective allocation of real estate resources, and government must intervene. However, the outcomes of government intervention to regulate the real estate market tend to be unsatisfactory. Taking China as an example, this paper analyses how institutional arrangements affect local government interest in the real estate market, and how local government impacts on that market's development. Our findings indicate that China's land and fiscal systems and the government's performance appraisal system create a local government monopoly in the primary land market and motivate local government officials to pursue immediate profit to relieve fiscal pressure, expand investment and improve performance. In these circumstances, local government favours a housing boom, dividing the benefits from the real estate market to maximize their own interests, and this is a key factor in China's ongoing real estate prosperity.

Keywords: Local government interest demand, housing boom, institutional arrangements, land finance

JEL Codes: H00, E60, C70

Introduction

Excessive housing market prosperity and fuel asset bubbles always attract academic attention, and such studies commonly regard financial credit and market expectations as the main reasons for housing bubble expansion (Krugman, 1998; Allen and Gale, 2000; Aoki et al., 2004; Gupta, Mille and Wyk, 2012; Ye, 2017).However, real estate products differ from general commodities by virtue of their heterogeneity and externality and their status as investment goods and public goods. For that reason, market mechanisms alone cannot ensure the effective allocation of real estate resources, and government must intervene.While efficientgovernment intervention can play a key role in stable real estate marketdevelopment, inappropriate intervention may trigger a housing boom (Peng and Wheaton, 1994; Glaeser and Gyourko, 2002; Glaeser et al., 2005; Vermeulen and Rowendal, 2007; Lu and Sun, 2013). To ensure that the real estate market can be regulated effectively, then, it is important to understand the relationship between government behaviour and housing market development. However, studies on this field are insufficient and government intervention in real estate market is inefficient. Taking China as an example, this paper analyses how institutional arrangements affect local government interest in the real estate market, and how local government impacts on that market's development.

Theoretical Analysis

According to public choice theory, local government officials can be characterized as 'economic man'inseeking to maximizetheir own interest in the market, and their behaviour and strategy are restricted by existing institutions. New institutional economics defines institutions as societal game regulators that influence market relationships and regulate behaviour patterns. To that extent, institutional structures and arrangements determine the various actions and strategies of different behavioural agents. In this way, existing institutional arrangements specify constraints and regulations that alter local government officials' interests, demands and relationships in the real estate market. This

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affects local government behaviour, strategy and efficiency of intervention, ultimately impacting real estate market development.

In general, government intervenes as a neutral administrator to address ‘market failure’. However, under China’s institutional arrangements, local government enters the real estate market to benefit as an interest pursuer. China’s systems of fiscal decentralization and performance appraisal and accountability mechanisms distort local government’s objective function by pursuing a housing boom in its own interests. On the other hand, the land system gives local government monopoly rights in the land market in that administrative region, giving it absolute power over land manipulation and administration (Kung and Chen, 2016). Local governments prefer to seize rent-seeking benefits from the real estate market using private rights in order to accumulate initial capital effectively, and to create a development model of ‘land finance + real estate finance’ that eventually stimulates regional economic development, improves personal performance and raises real estate prices. As a result, local government stimulates housing booms and fails to manage or intervene effectively in the real estate market.

①Land system generates land market monopoly

The land system in China generates a land market monopoly and gives local government the power base to divide benefits from the real estate market.

First, the land reserve system leads to a primary real estate market monopoly. The land reserve system asserts that ‘Scattered lands should be requisitioned, purchased and replaced by government agency, and then government agency arranges and develops these lands and puts them to the market through bid and auction according to the annual urban land plan’. The establishment of a land reserve system creates a local government monopoly in land supply by making local government the only legal subject in requisitioning, reserving and transferring land. This absolute power over land manipulation and administration generates a series of problems. Local government can requisition rural collective-owned land and set the price according to the land’s original use, which leads to failure of the price mechanism. This means that local officials have the power to deprive farmers of value-added revenue and to profit from differential land rent and land finance. This monopoly renders competitive mechanisms less efficient and widens the gap between demand and supply, which directly increases real estate prices. Local government can also reserve land and wait for the highest bid and mortgage unsold land to raise capital, laying a strong financial base for maximizing profits from ‘land finance’. Finally, land market monopoly gives local government arbitrary power in land-related transactions, which creates a rent-seeking space. Local officials can then gain rent-seeking benefits from real estate developers, who can transfer the additional costs to consumers by increasing housing prices.

Second, China’s recruitment, auction and suspension system requires commercial real estate development projects to acquire land use rights through bidding, auction and listing. Under this institutional arrangement, local government can transfer land use rights to real estate developers at a relatively high price, enabling local officials to secure significant value-added income and ‘land finance’ benefits.

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② Institutional arrangements affect local government interest demands

The current fiscal, performance appraisal and accountability systems motivate local officials to support a housing boom, enabling them to collect initial capital more effectively from the real estate market to stimulate economic growth and close the fiscal gap, further enhancing their performance and maximizing self-interest.

First, the current fiscal system in China leads to a mismatch of financial resources and administrative powers, and the fiscal gap is increasing. In 1993, central government introduced tax-sharing reforms to relieve financial pressures. This reform redistributed the financial and administrative powers of central and local government. The main tax categories were assigned to central government while taxes that are hard to levy or volatile in income terms were assigned to local government. This significantly reduced local government's fiscal revenue while its responsibilities remained the same or even increased. In addition, as current laws and regulations do not clearly specify the scope of local government responsibility, central and local governments sometimes overlap in fulfilling their obligations, which increases costs. In this way, the tax-sharing reform mismatches local government financial resources and administrative power and so widens the fiscal gap. This creates a strong motivation for local government to increase fiscal income, prompting efforts to earn more extra-budgetary revenue from sources that include land finance and debt income. In other words, institutional change alters local government behaviour by creating a reliance on the real estate market.

Second, because the performance appraisal system is economic growth-oriented, local governments become short sighted and adopt a 'land finance + real estate finance' development model. Central government has for a long time assessed the performance of local government officials on the basis of indicators such as regional economic development, investment attraction and municipal administration construction. In recent years, debt level and environmental pollution have been incorporated in the appraisal of local government officials, but this has had little effect, as GDP increase remains the key index of performance. In addition, central government uses the performance of neighbourhood officials and former officials as a reference for evaluation, trapping local government officials in this malignant 'GDP competition', and local governments increase investment to fuel regional economic development. According to economic history, industrialization and urbanization cannot be promoted without massive infrastructure construction, and any economic boom or surge of investment in an industrial society must be supported by a certain amount of initial capital. For China's local governments, 'land finance' is the most effective way to acquire this initial capital. On the one hand, local government can sell land for industrial use at a low price to attract investment and promote industrialization and economic growth directly. Equally, local government can sell land at a high price for commercial and residential use or apply a land mortgage loan to increase fiscal income and strengthen infrastructure construction, attracting further investment and stimulating economic growth. This fierce performance competition encourages local government to adopt a land finance + real estate finance development model involving two phases.(i)Initial capital is accumulated through land use rights transfer or land mortgage loans, activating the primary real estate market and stimulating economic growth. (ii)The scale of housing loans is expanded by regulating the real estate financial system, stimulating the secondary real estate market and absorbing the overcapacity caused by large-scale investment. As the current performance appraisal system traps local government in malignant GDP competition and creates a dependence on land finance, local government interest demand gradually aligns with the housing boom, and officials prefer to support this boom to stimulate economic growth and maximize self-interest.

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Finally, China's imperfect accountability system encourages local government self-interest by focusing more on economic, safety and environmental protection factors than on land regulation and policy implementation. As intervening in the real estate market maximizes self-interest in terms of greater benefits and lower risks, local officials look to profit from the real estate market, ultimately triggering a housing boom.

To sum up, current institutional arrangements give local government a monopoly in the land market, immersing local government in 'GDP competition' and creating significant fiscal pressure. To maximize self-interest, local officials begin to rely on land finance for rapid accumulation of initial capital to promote economic growth and relieve fiscal pressure, leading ultimately to government failure, increased land prices and housing booms.

Model analysis

This paper analyses the relationship between local government and the real estate market by modelling the utility function of local government. We assume that local government's overall investment expenditure includes capital expenditures $K(K>0)$and current expenditures $C(C>0)$. Local government distributes two forms of investment expenditures to maximize the output Y. We assume that the production function of local government is constant returns to scale, Cobb-Douglas production function: $Y=K^{\alpha}C^{1-\alpha}$, $\alpha \in [0,1]$ is the output elasticity of K, where1-α is the output elasticity of C. To simplify the model, we can express this utility function of local government in logarithmic form and ignore the influence of technical progress as follows: $\ln Y = \alpha \ln K + (1-\alpha)\ln C$. Local government income has four components.⑴Superior government fiscal transfer payments, $F(F>0)$.⑵Revenue from the transfer of land use rights; assuming there are $S(S>0)$ units of available land with price per unit $p_L(p_L>0)$, the proportion of land use rights that local government transfers is$\theta \in [0,1]$, and revenue on the transfer of land use rights is $\theta S p_L$.⑶Tax revenue, including real estate tax revenue T_H and other tax revenue T_e; assuming a plot ratio N and house price p_H, p_H is an increasing function of land price—that is,$p'_H = \frac{\partial p_H}{\partial p_L} > 0$. $t(t>0)$ represents the tax rate, and real estate tax revenue is $T_H = t\theta SNp_H$.⑷Land mortgage; assuming that local government mortgages lands that are not transferred to apply for loans, local government debt scale is D ($D \le \beta(1-\theta)Sp$), and$\beta \in [0,1]$ is the degree of land mortgage leverage. As local government expenditure has three components (capital expenditures K, current expenditures C and debt repayment d ($d>0$)), local government needs to maximize its utility under budgetary constraints:

$$\begin{cases} \max U = \alpha \ln K + (1-\alpha)\ln C \\ \text{s.t. } K + C + d \le t\theta SNp_H + T_e + F + \theta Sp_L + D \\ D \le \beta(1-\theta)Sp \end{cases} \quad (1)$$

Using the Lagrangian Multiplier method to calculate the optimum solution,

$$K = \alpha\Omega, \quad C = (1-\alpha)\Omega, \quad U=\alpha \ln \alpha\Omega + (1-\alpha)\ln(1-\alpha)\Omega \quad (2)$$

Where$\Omega = t\theta SNp_H + T_e + F + (\theta + \beta - \theta\beta)Sp_L - d$, we can calculate the following results:

$$\frac{\partial U}{\partial p_L} = \frac{t\theta SNp'_H + (\theta+\beta-\theta\beta)S}{\Omega} > 0 \quad (3)$$

$$\frac{\partial K}{\partial p_L} = \alpha\,[t\theta SNp'_H + (\theta + \beta - \theta\beta)] > 0 \quad (4)$$

$$\frac{\partial C}{\partial p_L} = (1-\alpha)[t\theta SNp'_H + (\theta + \beta - \theta\beta)] > 0 \quad (5)$$

Clearly, then, higher land prices lead to higher local government utility, and this utility increases further if land prices drive up housing prices higher. As a result, based on the 'economic man' assumption, real estate price increase aligns with local government interest demand. For that reason, local government prefers to make a profit from the real estate market and increase land and housing prices, leading to a housing boom.

Conclusion

Based on this theoretical analysis and model, we conclude that current institutional arrangements change the relationship between local government and the real estate market, and a housing boom coincides with local government interest demands. In their role as 'economic man', local officials prefer to profit from the real estate market rather than regulating it and so create a 'land finance + real estate finance' development model that ultimately results in housing boom.

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RICHA BAGHEL[1]

CORPORATE GOVERNANCE AND LEADERSHIP BASED ON TRINITY ENERGY

Abstract

The success of corporate entities largely depends on the governance culture. Leaders drive the governance for sustainable growth of the organisation. A structuralist research approach draws a relation between the character of a leader and leadership approach. This research shows how a leader plays three roles of a creator, maintainer and rejuvenator while governing. These energy forces in Sanatan Philosophy (Eternal Religion) referred to Brahma, Vishnu and Mahesh respectively. The author draws characteristics of each energy force and how a leader can govern or lead through focusing on them. Paper describes how character-based leadership will have more meaning full impact on working culture.

Keywords: Corporate governance, leadership, trinity energy

JEL Codes: M10, M12, M20, M50

Introduction

In view of current world scenario specially Covid-19, corporate entities are looking for sustainable course of action through corporate governance (Ararat et al., 2020). Corporate governance structure shall allow a balance between stakeholders' drive and societal culture (Gaur et al. 2019; Kowalczyk and Kucharska 2020). Diverse geography, vision and mission plays vital role in sustainability and governance (Sahar et al. 2019). The practice of corporate governance is rather organic not static in nature (Singh and Gaur 2020). Role of leader is key to build a sustainable structure (Salvioni et al., 2016; Sahar et al. 2019). Strong character is critical to perform role of leader (Sosik et al. 2019). Critical thinking allows leaders to drive justified logical results. Critical thinking is combination of self direction, discipline, monitored and corrective thinking (Paul and Elder 2019).

In an organisation leader creates (Brahma), maintains (Vishnu) and reforms (Mahesh) (Low & Muniapan 2011). The Trimūrti (three forms) (Random House Webster's Unabridged Dictionary, 2014) or Trinity are the triple Hindu deity. These three forces are the cause of universal creation, maintenance, and destruction in sequence. They perform three functions creation, maintaining and destruction namely by Brahma the creator, Vishnu the preserver, and Shiva the destroyer. These are energies that manifests in one person. Brahma, vishnu and mahesh also stand for passion (rajas), goodness (sattva) and darkness (tamas) respectively (Grimes, 1995; Jansen, 2003; Radhakrishnan, 1956; Winternitz,1972; Flood, 2003; Zimmer, 1972; Sharma, 2000).

Discussion

Brahma The Creator

In hinduism Brahma is creator energy (Coulter and Turner, 2013). Rudra 2007 describes Brahma with four-faced god set on flower lotus. In his four hands he holds Kamandalu (pot of water), Vedas (ancient hindu manuscript), Sruva (sacrificial tool), Mala (rosary), wears hide of a black antelope and Hamsa (swan) is his vehicle. Four face here resembles four Vedas and they are Rig, Yajur, Sam and Atharva (Flood & Flood, 1996). Leader gets involved in creation of organisational activities to achieve the

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desired set goals. His four face symbolises four vedas (ancient spiritual scriptures) means knowledge. Sri Sri Ravishankar (2019) explains Rig Veda contains information on material and spiritual; Yajur Veda is action oriented contains information on mathematics; Sam Veda holds knowledge ho feelings, emotions and music; and Atharv Veda provides information on more material sciences such as herbs, medicines. These also symbolises four ways of thought function which are mind (manas), intellect (buddhi), ego (ahamkara) and consciousness (chitta). Rudra 2007 describes Brahma's characteristics is explained by Sweeney in Brahma in Vedic Physics. Four arms of Brahma represents four prime directions i.e., east, west, north south. Back right and left hand represents mind, intellect respectively. Front right and left hand represents ego and self-confidence respectively. White beard, crown, swan and book signify wisdom, authority, distinguisher and knowledge respectively. The m

Vishnu The Maintainer

Maintainer's energy is drowned by Vishnu in hinduism. The preserver in the Trimurti (Orlando & James, 2007). Lord Vishnu, the preserver knows as manager or leader of the universe (Low & Muniapan, 2011). Rudra 2007 describes Vishnu's characteristics as bearing four arms. Upper and lower left hand carried the Panchajanya shankha (conch) and Padma (lotus flower) respectively. Upper right and left hand carries the Sudarshana Chakra (discus) and the Kaumodaki gada (mace) respectively. The Counch produces "OM" sound, it presents the primeval sound of creation. Chakra (discus) symbolises mind. The lotus flower resembles here glorious existence and The gada (mace) represents physical and mental strength.

As a leader, one organises and maintains the whole working environment. The *Vishnu* (maintainer) energy leads to utilise once speech to mobilise its team. The Conch represents sound and voice plays huge role in binding the whole team together. Walumbwa & Schaubroeck (2009) examined that employees leaders personality makes employees feel psychologically safe. Chi et al., (2011) investigated that positive words and behaviour influences teams performance. Sy et al., (2005) found in their study that professional behaviour add to the performance of organisation. The Chakra symbolises mind and Lotus refers to glorious existence. Stahl & Sully (2014) mentioned do good and avoid harm mindset of leaders strengthens organisational environment. Pillai (2018) mentioned leader's clear and calmer state of mind with larger vision essential to be a winner. A leader balances happiness and wellbeing of the team in long run. Leaders are part of the team by elevating them and at the same time they stand apart. Popular leaders leads classes and masses simultaneously; their energy transfers to the whole team with humility. Sri Sri Ravi Shankar (2013) emphasised on development of right mind set and categorised in two types: labour union and authoritarian mind. Delegation is one of the best strategy to keep team motivated and build self inspiring team. Leader's presence is communicated through presence: *satyadarshi* (truthful), *Samadarshi* (equanimous), *priyadarshi* (pleasant personality), *paradarshi* (transparent), *doordarshi* (farsighted).

As preserver, hindu scripture mentioned ten primary avatar (incarnation) of Vishnu (Swami Parmeshwaranand, 2001). First four Matsya, Kurma, Varah, Narasimha avatars existed in Satya Yuga, (Vaswani, 2017; Carman, 1994). Next three Vamana, Parashurama, Rama avatars are mentioned in Treta Yuga. Krishna appeared in Dvapar Yuga. Buddha and Kalki arose in Kali Yuga, (Low & Muniapan, 2011). Matsya in Sanskrit meaning of fish. Mat means counsel or knowledge and as means union or together (Bonnefoy, 1993). Kurma in Sanskrit is known as turtle and it symbolises firmness or steadiness (Caland & Brahmana, 1931; Caland 1982). Varaha means boar or pig, it represents sacrifices (Wilson, 1862; Dalal, 2011). Narasimha is man-lion which represents ingenious shield, holding hopes against all odds, gain over persecution (Pal, 1986). Vamana is known as his three strides which covers earth, sky and conscience that symbolises control over greed or over ambition, control over rage or fear and control over ego and arrogance (Dinamalar, 2019). Parashurama is recognised for aggression, warfare and valor, serenity, prudence and patience (James, 2002; Constance & James, 2006). Rama exemplifies attributes of and ideal human to uphold moral obligation (Hess, 2001; Flood, 2008). Krishna is avowed for love, tenderness and compassion (Scharfstein,1993; Bryant2004). Buddha is recognised as spiritual teacher and religious leader. More commonly as enlightened master (the awaken one) (Warder, 2000). Kalki is the one who restores positivity from negativity (Dalal, 2014).

Shiva The Rejuvenator

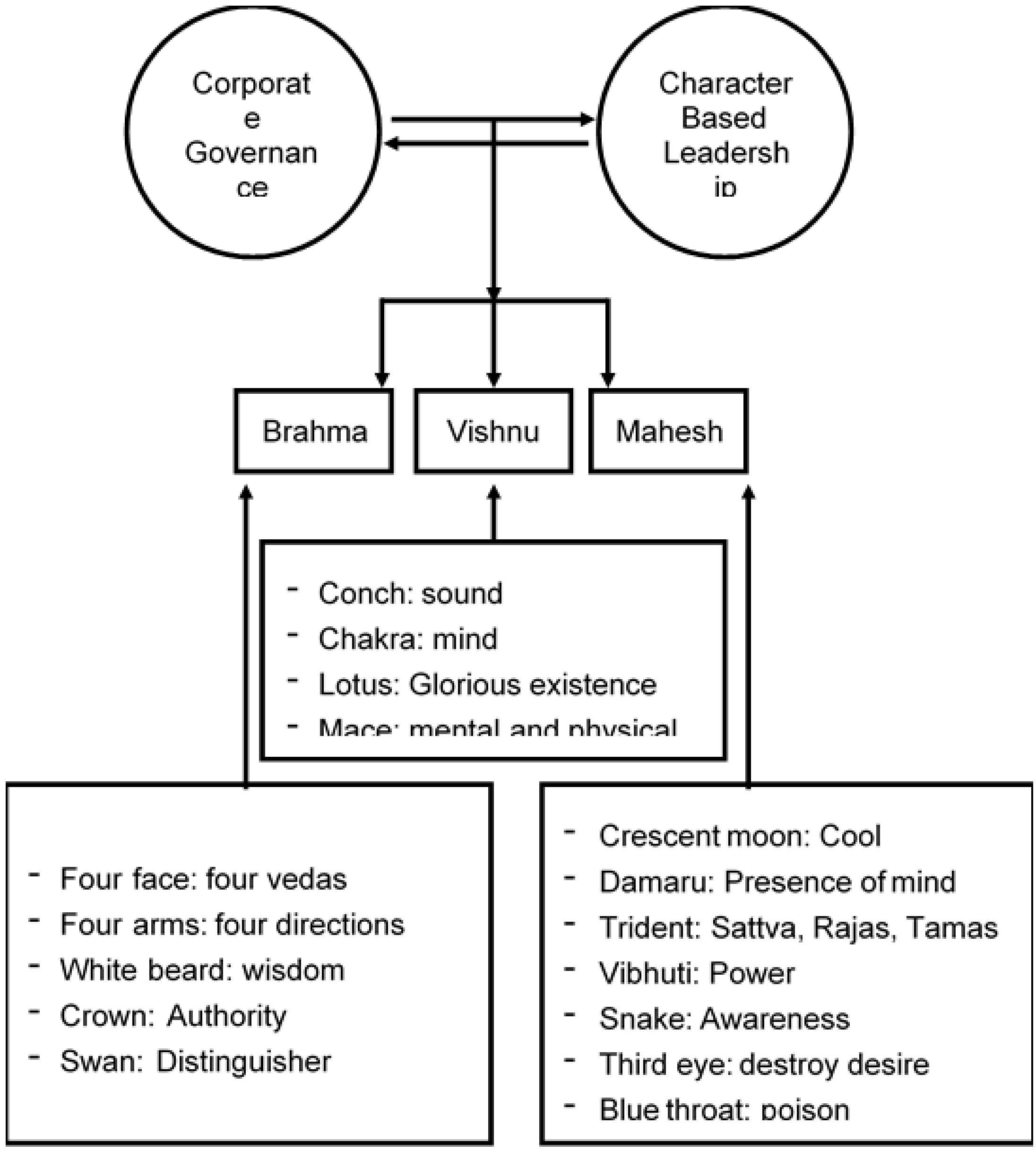
Rudra, 2007 characterises Shiva as rejuvenator or destruction, which is possible when matter is perishable. Third eye symbolises the burning of desires (Flood and Flood 1996). Crescent moon denotes calm mind (Shrikanta 2017). Ashes covered in his body presents impermanence (Rigopoulos, 1998; Deussen, 1980). Matted hair is considered as shell (Kramrisch, 1981; Chenchiah, 1928).
The blue neck (Neelkanth) of Shiva represents that leader one should neither take the vices out nor suppress them but alter or modify them. The blue colour symbolizes slow poison or the negative thoughts. The same in the neck indicates that the poison is neither to be drunk nor to be spitted out but to be kept in the throat temporarily so that it can be neutralised at appropriate time (Sharma, 1996; Shukla & Srivastava 2014). Sacred Ganga or Ganges is flows from his hair means purity (Kramrisch, 1981; Mankodi, 1982; Eck, 1999). Shiva is seated on Tiger skin represents royalty, king of forest (Flood, 1996; Sramek, 2006). Snake is his garland (Flood, 1996) symbolises awareness. In sanskrit Nandi stands for joy and satisfaction (Williams 2017). Shiva resides in Mount Kailasha Flood (1996) it represents center of the universe (Stutley, 2019). Ganas are attendants or troop of Shiva (Dallapiccola, 2014).

Conclusion

For sustainable development of organisation requires systematic governance. Research shows leaders character through their way of responding to a situation. A leader posses all the three qualities of creator, maintainer and rejuvenator. The qualities are different for each situation. Governance is to set the culture of the organisation that retains suitable resource in the organisation. Each symbol has deeper meaning that adds value in the organisational system of governance.

Relevance of Trinity in Character Based Leadership

Figure 1. Model on Corporate Governance and Character Based Leadership



Source: Authors, 2020.

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For quotation defining the trimurti see Matchett, Freda. I real all the three deities are avatar of Shiva. The Brahma is "Swetamber"(one who wears white clothes), Maha Vishnu is "Pitamber"(one whp wears yellow/red/orange clothes) and the Shiva is "Digamber/Vaagamber"(one who doesn't wears any cloth, only the skin of tiger). "The Purāṇas", in: Flood (2003), p. 139.

For the Trimurti system having Brahma as the creator, Vishnu as the maintainer or preserver, and Shiva as the destroyer. see Zimmer (1972) p. 124.

For worship of the five forms as central to Smarta practice see: Flood (1996), p. 113.

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DANIELA BELLANI[1] AND GIULIO BOSIO[2]

WHEN ROBOTS MEAN SUBJECTIVE INSECURITY: AN INDUSTRY LEVEL STUDY IN EUROPE

Abstract

There is a long-standing debate about the consequences of the Digital Revolution on the destiny of work. While some experts emphasize the potential benefits of robotics for employment opportunities, others argue that technological innovation represents a threat for overall employment.

This paper aims to reframe the debate about the consequences of the process of increasing automation technology on the perceived employment conditions of workers by focusing on the interaction between the industrial robots usage and employees' perception of job instability at industry level.

Keywords: Robot, insecurity, Europe

JEL Codes: J12, J13, J21, J23, J24

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AYMEN HABIB[1] AND AYMEN AJINA[2]

OWNERSHIP STRUCTURE AND DIVIDEND POLICY: CASE OF LISTED FRENCH FAMILY FIRMS

Abstract

Many French companies that distribute dividends, by focusing our research on family listed companies, we tried to study the impact of the family ownership structure on their dividend policy. This paper presents the empirical study results on a sample of French listed companies. It aims to explain the dividend policy distribution by family shareholding structure and the presence of institutional investors and their possible influence. The theoretical framework of this study is the agency relationship. The results show that family ownership positively affects the dividends distribution; however, institutional investors have a negative influence.

Keywords: Dividend distribution, Ownership structure, Shareholding family

JEL Codes: G41

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SINTEA (ANGHEL) LUCICA[1]

ENTRIES AND EXITS OF ECONOMIC ASSETS IN ENTITIES

Abstract

The management of the economic assets of an entity's assets includes all actions of contracting, ordering, internal and external transport, based on the notification accompanying the economic assets , are intended to remain an entity, may be used in production or trade. Legal aid documents are the basis of the accounting records, as well as the way of care. and places flows of current economy and / or capital goods. The article is intended to present the phases of entry, transformation and exit of economic assets in the form of goods or in different phases of transformation or not, in the activity of the entity. The presentation addresses both the accounting point of view, as well as the fiscal and legal point of view.

Keywords: Economic assets, accounting records, management, activity, entity

JEL Codes: A20, G2, G28, M21, M28, M41

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ONYEKA NWELUE[1]

THERE ARE NO WHITE PEOPLE

Abstract

Colourism is differentiating things. By the time the Europeans came to Africa for their obnoxious colonialism, they had concluded on the idea of institutionalization. They chose to institutionalize Johannes' appellation; black.

They chose between Black and White.

Two colours that they have given the respective meanings of bad and good, impure and pure. They did not stop there. They felt they needed to classify other people that were not either Europeans or Africans. People like the Chinese, the Japanese, even the children of both European and African parentage were also to be classified. "They say that when you mix white and black, you produce brown. You produce the coloured. You produce the confused.

Or, the confusing.

So, the Europeans quickly said to themselves, 'Let's call these folks black, because they are impure.' Hence, why we are called blacks today by everyone.'" They termed us 'Black' to brand us as inferior and illegal. Black usually connotes gloom and doom. Few phrases that start with black are positive or uplifting. For instance, there is 'Black Friday.' The deadly epidemic that ravaged Europe in the 14th century is termed 'the Black Death.'

Keywords: Colonialism, Colourism

JEL Codes: Z00, Z10

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