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Contemporary Trends and Multidisciplinary Issues in Nowadays Society

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property administration , local government, compliance audit process, public and state property, The institute of extradition , Albanians judicial system and international one., Domestic violence, policing paradigm of COVID-19 Pandemic , law enforcement challenges, Legal-criminal protection of signators , executive with the legislative , vocational education, judicial remedy , Divine Law ,

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Session 3.1: ICT

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International Scientific Conference of "Contemporary Trends and Multidisciplinary Issues in Nowadays Society"

Tirana, Albania, 8th October 2020

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Overcoming the Regulatory Commercial Issues in the Emerging Distributed Photovoltaic Resources in Albania

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Abstract

The deployment of alternative renewable resources has become a vital priority for Albania. Consider that the country remains a net-importer form around 20 years - on average for one-third of its needs - the issue is how to complete this gap without putting the system (alias OSHEE) into severe financial difficulty.
On regard, the distribute resource candidates their self as a more suitable solution source. However, among many issues of this innovation, the most pressing mater becomes how the country can address the option of their remuneration and the determination of their level.
Based on daily practical experience and focusing on the latest updates, this paper analyses the legal and regulatory framework for photovoltaic developments. Further, it brings "a catalogue" of the different options for identifying and overcoming the complexity approach needed to address self-consumption deployment in Albania.

Key words: Legal barriers, PV sources, Distribute energy sources, energy market tariffs, Electricity Distribution Operator.

Introduction

Today, the transition to the green energy sector and the Western Balkan countries' integrated market have entered in the final stage.[1] However, each country has been focused on discovering its model based on its specific resources' greater efficiency.

[1] Spasić, V. (2020). Energy Community Secretariat launches Energy Transition Tracker for Western Balkans. Balkan Green Energy News /online/. Retrieved on 19th July 2020 from https://balkangreenenergynews.com/energy-community-secretariat-launches-energy-transition-tracker-for-western-balkans/

To this regard, Albania has outstanding solar irradiation within most of its territory. The country registers the highest number of sunshine hours per year in Europe. On average, there are around 286 days, with up to 2700 hours of sunshine per year.[2] Therefore, it is also an ideal place, where each hectare of land used can generate up to a quarter of a million euros per year (Council of Ministers Official Website, 2020).

Notwithstanding, up to now, less than 1% of total energy production came from solar generation.[3] Up to here have been installed only seven photovoltaic power plants by 2 MW, covered by Feed-in Tariff of 100 Euro/MWh, and plenty of self-generation small installations estimated to reach around 50 MW.[4]

Notwithstanding, the investments in new generation sources have been a vital priority of any government in Albania, the country remains a net importer on average for around one-third of its needs. In particular, during 2019, drought-triggered electricity imports cost by 209 mil/€ and put the power utilities (especially OSHEE Group) into severe financial difficulty.[5]

Indeed, a variable to this situation is posted due to market liberalization process and the aim to mitigate price fluctuations. In this regard, the country is increasingly entering the optic of developing alternative renewable sources, especially photovoltaic ones. It includes, among other, Distributed Renewable Energy (DER) sources up to 500 kWp for households, public institutions and small and medium enterprises. Through the Net-Metering Scheme, a regulatory framework enables the storage in the network and the full return of energy without paying any cost at all for its usage.

Then the most pressing issues about the future development of the alternative renewable in Albania, and in the same time the aim and the objectives of this study, becomes the understanding how to complete this gap, in particular addressing the issues of their remuneration, for boosting

[2] Gordani, L. (2020). Albania toward large and sustainable energy developments. *Virtual Seminar - Sustainable Energy Development in Albania: Opportunities and Investment Protection Issues on 8 July 2020*. Seminar activity organize by Volterra Fietta and coparticipate by Graham Coop Partner at Volterra Fietta and former General Counsel to the Energy Charter Secretariat.

[3] Based to the periodic INSTAT Data.

[4] Empirical estimation. Gordani, L (2020). Personal contribute on Energypedia.info/Albania Energy Situation: https://energypedia.info/wiki/Albania_Energy_Situation

[5] Gordani, L. (2020). **Albania toward large and sustainable developments.** ***Albania Energy Blog*** /online/. Retrieved on 16th August 2020 from https://adviser.albaniaenergy.org/en/2020/08/10/advlorencgordani/albania-toward-large-and-sustainable-developments-by-lorenc-gordani/

the private companies business plans without putting the distribution grid operator OSHEE into severe financial difficulty.

To reply to this issues, it needs to consider many variable starting by the fact that according to preliminary zoned studies, currently, there is untapped technical potential for the deployment of solar PV of up to 2378 MW available with a low capital cost.[6] However, this technical potential heavily depends and is correlated with market development: means the many variables related to the challenges and new opportunities unfold from the transition.

On above, referring to the new strategy by 2030, it can identify two big variables. In particular, it is planned to continue on the integration of two main pillars: the first variable regard the completing of the reforms of market liberalization in the context of regional integration, and the second one, the promotion of sustainable development. A further complication came out but the fact that all of this is thought to come out by the integration of the five analytical scenarios. Aspect aimed to be built to pave the way to the pursuit of the priorities that will be defined by concrete action plans prepared and presented by the interested private investors.[7]

As seen by the here extremely synthetic summary of the national strategy, the pursuit of each scenario will depend on private investors' interest (which make the situation more complex and challenges). However, to make it possible, a pivotal role has public flaking policies. In this regard, it could be relevant to remember that a game of change of the actual situation on sustainability came with approving of the new RES law of the second generation in 2017.[8] On regard, the latest NREAP 2019-2020 confirms only that renewable investments will continue to rely on incentives, fiscal facilities, and other supports. Nerveless a big question arise in regard to the situation about the period 2020-2030.

The targets by our side are made clear with the setting for renewable energy aimed at the level of the 38% of Albania's gross final energy consumption by 2020. Further, according to the National Energy Strategy 2030, renewable energy share aims to raise at least 42% by 2030.[9] However, the

[6] UNDP study, but also National Action Plan on Renewable Energy Resources (NREAP) Data.

[7] Strategy of the Energy Sector by 2030 approved by the Albanian Council of Ministers with the DCM nr. 480, date 31.7.2018.

[8] Gordani, L (2020). Personal contribute on Energypedia.info/Albania Energy Situation: https://energypedia.info/wiki/Albania_Energy_Situation

[9] Strategy of the Energy Sector by 2030 approved by the Albanian Council of Ministers with the DCM nr. 480, date 31.7.2018.

facts have shown till today that we are far away from the reaching of the supposed aims, and it is already thought to be a reviewed (raised[10]).

To this regard, it is necessary to present that the new framework regards the PV was followed, by first, with the agreement between the MIE and the European Bank for Reconstruction and Development (EBRD) on May 6, 2017, and then the one of the EBRD - Energy Community Secretariat (EnC) on June 9, 2017 (Reiserer, A., 2017). The agreements that see the engagement to accompany the process, bringing expertise and overseeing the approval of competitions process to attract the interest of big international companies for the developing of 700 MW capacity in the PV by 2020.

The above framework has seen the increase of the intended capacity of PV to be built with support from 120 MW to 490 MW.[11] Further, the mentioned strategy provides a solid framework that will also serve as a basis for the development of an integrated National Energy and Climate Plan (NECP) as the other union members within the end of 2020, which will serve as the base for the NREAP 2030.[12]

Following the above, in June 2019 the Ministry of Energy finally approve the net metering scheme regime for DER.[13] The scheme open to renewable energy systems includes wind and solar projects up to 500 kWp. Net metering scheme to which is recognised a full return of energy delivered without the payment of any cost for the use of the grid.[14] This is thought to enable the self-production installations of up to 200 MW.[15]

A further big variable aspect to keep in consideration, as mention above, regard the reforms of market liberalization in the context of regional integration. An aspect to which is work from a very

[10] Direct professional communications referee value among 45-48%.

[11] National Consolidated Action Plan on Renewable Energy Sources, 2019–2020 approved by Decision of the Council of Ministers no. 580, dated 28.8.2019.

[12] Spasić, V. (2020). Western Balkan countries on the way to finalizing their National Energy and Climate Plans. *Balkan Green Energy News* /online/. Retrieved on 17th June 2020 from https://balkangreenenergynews.com/western-balkan-countries-on-the-way-to-finalizing-their-national-energy-and-climate-plans/

[13] MIE official website.

[14] Gordani, L. (2020). **Albanian Policies on Renewable and Efficiency Developments.** *Albania Energy Blog* /online/. Retrieved on 16th February 2017 from https://adviser.albaniaenergy.org/en/2020/02/16/advlorencgordani/albania-toward-renewable-and-efficiency-by-lorenc-gordani/

[15] Made public by direct contacts or recent activities.

long period but have started to enter recently in the evolution of a very interesting stage. In, regard, the country similar to the transformation-taking place in the region, is increasingly entering emerging wholesale trading and deregulated market. The last step has seen on 5 October 2020 the followed with the Power Exchange so-called ALPEX. The process is followed in parallel with the intraday and balancing market, as well as the management of allocation capacity of high voltage grids by the joint auction office (SEE CAO) of Podgorica. Furthermore, it has worked for the coupling process with Italy, Montenegro and Serbia (AIMS project).[16]

The above is followed by the gradual opening of the vectorization for alternative suppliers in the distribution network. As a result, the distribution operator has invested significantly, planned to reach about 350 million Euros in the last five years, concerning administrative processes and primarily technical automation to ensure the transition consumers' efficiency from traditional to alternative energy supply.[17]

A hypothesis that rise here is that it will take a long time for private companies to create the necessary expertise to the supply, and in parallel, the adoption of the network structure is also increasing the opportunities for the use of alternative energies by consumers. Then, in parallel with creating the competitive market, the consumers have the opportunity to access their proactive way of generating energy for daily needs.[18]

Thus, the final solution to our above hypothesis is that the binomial "alternative supply vs renewable self-consumption" seems to depend on the speed of the competitive offers penetrations. However, we think that the distributed photovoltaic energy resources are advantaged by avoiding network cost as they are produced directly in the place where their consumption is needed. Besides, one-third of the total number of consumers is located in the capital and the rest in the largest urban and rural areas of the western lowland or other areas with high solar radiation such as Elbasan, Korça, etc.[19]

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[16] Gordani, L. (2019). Albania integration into the European energy network**.** ***Albania Energy Blog*** /online/. Retrieved on 16th December 2019 from https://adviser.albaniaenergy.org/en/2019/12/15/advlorencgordani/albania-integration-into-the-european-energy-network-by-dr-lorenc-gordani/

[17] OSHEE data.

[18] Gordani, L. (2017). Electricity Market Opening and the Boost of the Photovoltaic Technologies in Albania, 15th December 2017. *Western Balkans Second Regional Forum for Regional and Local Economic Development, Vlore, Albania, November 29-03, 2017.* For more on above find the related presentation kept by Dr Lorenc Gordani.

[19] Gordani, L. (2017). Electricity Market Opening and the Boost of the Photovoltaic Technologies in Albania, 15th December 2017. *Western Balkans Second Regional Forum for Regional and Local Economic Development, Vlore, Albania, November 29-03, 2017.* For more on above find the related presentation kept by Dr Lorenc Gordani.

In regard to the main question of this research, the fact is that the power sector, with the introduction of the distributed energy sources, has been undergoing one of the most challenging changes of the last 40-50 years.[20] Thereby it poses a truly transformative challenge. Besides, to the impact from a technical point of view, distributed self-consumption generation raises a number of commercial nature issues that need to be resolved with the least possible market distortive effects. In this regard, it is necessary to explain the concept of "Net metering scheme" introduced by the new RES law in 2017. It provides a framework that makes possible for these "producers" to inject to the grid the surplus production and draw electricity when self-generation is not enough to meet their needs (so-called "prosumers"). The net balance and the billing is made monthly for each measuring unit.

The problem is the commercial issues still stays pending and need to be defined as soon as possible considering that many projects have entered in the work now from one year. However, all around the world, there are several schemes to regulate the surplus production injects into the distribution network, such as "Net metering", "Net Billing", mutual trade agreements with or without a premium.

At the end of the here analyses, it can be stated that regardless of the solution, a consistent, transparent and comprehensive legal and regulatory form is essential for the development of distributed generation for self-consumption purposes.[21]

Literature review

In regard, it wants to state, saying that the above find a solution is not quite simple and automatic. However, the here paper is based on the long daily empirical experience without neglecting the relative existing, even almost scarce, bibliography offered in this topic. Then, mostly it bases to direct analyses and genuine interpretation of the official fonts of law and documents prepared from international institutions, such as the energy community secretariat of Vienna, IRENA, etc.

[20] Gordani, L. (2017). **Commercial issues on net metering and net billing schemes.** ***Albania Energy Blog*** /online/. Retrieved on 16th November 2018 from https://adviser.albaniaenergy.org/en/2017/11/06/lorenc-gordani/commercial-issues-net-metering-net-billing-schemes-dr-lorenc-gordani-6th-nov-2017/

[21] Gordani, L. (2017). **Commercial issues on net metering and net billing schemes.** ***Albania Energy Blog*** /online/. Retrieved on 16th November 2018 from https://adviser.albaniaenergy.org/en/2017/11/06/lorenc-gordani/commercial-issues-net-metering-net-billing-schemes-dr-lorenc-gordani-6th-nov-2017/

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Methodology

Firstly, about the adopted methodology, it is followed with a meticulous analysis of all the legal and regulatory base, as well as the action plans and strategies approve, from at least the last five years, by the Albanian authorities. In particular, it focuses on the mains aspect that regards the legal and regulatory framework that regulate the photovoltaic for self-consumption in energy production and the new opportunities that unfold by market liberalisation.

Further, the bibliography is followed on the legal and regulatory framework for prosumers in the Energy Community[22].

Notwithstanding, the above effort this study have to base to previous and continues works released by the author from its activity at least from more than ten years in the energy sector. Many of which made public in different presentation kept and publication to the traditional and the online tools.

To this regard, "a file rouge" is the bring an analysis of the different options as much as possible in a simple manner to explain the "philosophy" to which them based, for helping in overcoming the complexity and the identifying the right approach needed to address it by Albanian authorities, integrated with the new opportunities offered by the liberalization and the regional integration of the market.

Results and discussions identified

The continuous reduction of costs of PV panels directly affects the interest of self-generation. Adapting self-consumption schemes can provide new opportunities for end-customers to take advantage of technological development and reduce their costs on energy bills, contributing to environmental and energy policy objectives.

In support of which has to consider the adoption of the Policy Guideline of 2018 which are not biding for EnC member countries as Albania. However, due to it a legally binding framework for self-consumption was adopted the so-called Clean Energy for all Europeans Package (CEP). In

[22] One of the most recent is the Energy Community Regulatory Board report https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018R1999&from=EN

this policy framework, the new Renewable Directive obliges the EU Member States to put in place an enabling framework to promote and facilitate the development of renewable self-consumption. In specific to this regard the Governance Regulation[23] requires the EU Member States to include a summary of the policies and measures envisaged as part of such an enabling framework and an assessment of their implementation in their National Energy and Climate Plans (NECPs). The CEP is not yet a legal obligation in the Energy Community but is in final preparation by all the Western Balkans (WB) countries.

In this direction, Albania as the rest of the WB is in the final stage of the work to release its NECPs. In more, in 2018, the Energy Community Ministerial Council adopted the General Policy Guidelines on 2030 Targets[24]. The Contracting Parties expressed commitment to adopting the new Energy Efficiency Directive, the new Renewable Energy Directive[25], and the Governance Regulation introduced by the CEP.

However, some of the issues that will need to be addressed and resolved in advance for this to happen. They mainly consist of assessing the current and future impact of these generators, identifying additional benefits or costs for the system as a whole. This will help set up obligations for self-producers to fairly cover the side effects for which the latter are responsible.

In this direction, firstly, as is known, distributed generators can have a significant impact on the network, which will need to be assessed as accurately as possible before any practical progress of any option such as net metering or net billing. Only then would it be possible to use these resources on the network, without compromising security or increasing network costs for traditional users.

Thus, despite all the improvements to date in the distribution system, there are still several technical, economic and regulatory barriers that will need to be overcome shortly to facilitate the integration of the DER into the grid and the electricity market.

Conclusions and recommendations

[23] Energy Community Regulatory Board report https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018R1999&from=EN

[24] https://energy-community.org/dam/jcr:a70ca2dc-6043-4dbd-8cca-84b755efc71d/PG_2030_Targets_112018.pdf

[25] https://ec.europa.eu/energy/topics/energy-efficiency/targets-directive-and-rules/energy-efficiency-directive_en

Therefore, in conclusion, conscious of a somewhat simplified synthesis for such a sensitive economic issue, it is not just a matter of issuing a simple government decision (DCM), but a recognition accurate (or estimation) of network losses, total asset value, debt service costs, and clarification of mutual liabilities of public enterprises, as tariffs are not taxes but reflect costs and allowable profit.

The above means the working in many directions, such as legal and regulatory framework, technologies and technical requirements, market entry for self-consumption, network usage fees, taxes and other charges. [26] A framework, the main aspects of which we will briefly refer to in this final summary below:

1 - Firstly, there is a need to set a simple, transparent and sustainable legal and regulatory framework that allows all final consumers to expand, store and sell their electricity.

2 - The public company will have to remove any technical barriers to access the grid to self-consumer installations, including those for energy storage in the network (energy storages) through transparent and comprehensive rules.

3 - There is a need to promote self-renewable customers' active participation in the electricity market, including energy purchase agreements[27], the possibility of energy supply, and the exchange with other customers (peers to peer trading)[28].

4 - Furthermore, self-consumers should be entitled to compensation, which reflects the market value of this electricity and should consider the long-term value for the grid, the environment, and society.

5 - Finally, to avoid cross-subsidization, the new Renewable Directive stipulates that all prosumers will be subject to access to the grid by contributing to network costs in an adequate, fair and proportionate manner.

[26] A framework well-presented in the Policy Guidelines on Integration of Renewables Self-Consumers by the Energy Community Secretariat. PG 03/2020 / 28 September 2020.

[27] "Renewables power purchase agreement' means a contract under which a natural or legal person agrees to purchase renewable electricity directly from an electricity producer.

[28] 'Peer-to-peer trading' of renewable energy means the sale of renewable energy between market participants by means of a contract with pre-determined conditions governing the automated execution and settlement of the transaction, either directly between market participants or indirectly through a certified third-party market participant, such as an aggregator.

In any case, the situation is in a strong change in many directions with the strategic reform of opening up the sector. The completion of which is expected to be finalized with the start of operation of the power exchange ALPEX. The rest will be a "domino" effect, now in ongoing, turning the entire sector towards the market.

However, precisely the reluctance of its opening regarding the fear of rising energy prices that has accelerated the implementation of the DER option itself, if it will be verified as such would make them convenient the use even without a reward price for the surplus and would open up the possibility of using hybrid or even off-grid options for those categories that will see the price increase.

A particular aspect of distribution regulation that will remain open for a long time is how to encourage innovation through network design and operation, in meeting future challenges such as increasing the ability to manage demand (Demand-Side Management - DSM), aggregate the demand through the cooperative of the distributed energy sources production, enabling the framework for the electric vehicles, etc.

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Brand influence on consumer's taste – An Albanian perspective

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Abstract

This paper studies the relationship between brand name and purchase of branded products, between the latter and the purchase of initially unnecessary products of strong brands mainly because of emotional satisfaction and prestige sense of community conferred by the brand and between the latter and the change in consumer's taste about these products. Brand is a very important aspect of a product and one of the first and strongest connection to it, as consumers often identify themselves to the brand more than to the product itself. This was investigated using a qualitative method by means of a questionnaire and a correlation

analysis. The results showed a strong and positive relationship between these variables and they increased the theoretical understanding of this issue, especially in Albania where the culture of scientific research is still not as developed as it should be. The findings are important for marketers to know the power of brands in the buying decision and to consider marketing ethics in their strategies, as well as for consumers to know the risk of their "brand dependency".

Key words: *Discretionary purchase, emotional satisfaction, habit, marketing ethics.*

Introduction

This paper focuses on the influence that strong and popular brands have on consumer's taste in a transition country like Albania. The purpose of the paper is to study how the use of products, which at the beginning are unnecessary to the consumer, can influence their taste that much, that they will turn their use into habits. The objectives are to find out what influences first their buying decision most, than how much can a brand influence them to buy unnecessary products just because of the brand and emotional gratification or community feeling it gives to them, and how much are consumers inclined to change their taste towards the use of these branded products and their behaviour as a result thereof. A brand is a name, a symbol, a sign, a term, a design, or a combination of all of them, which is used to identify the producer or seller (Kotler, 2018) and consequently also the products and services produced or provided by them. It is also considered a tool to protect the buyer from other fake products (Kotler, 2018), a mean to keep the market share of a company in terms of brand equity (Lieven, 2018), but also to change his buying behaviour (Alamgir, Nasir, Shamsuddoha & Nedela, 2010). The aim of this study is to prove further on, how much can a brand form the behaviour of Albanian costumers and consequently their everyday life's taste about products and services, for e.g. about products like tobacco, alcohol, clothes, theatre etc, for which consumers have the tendency to be influenced by the prestige they gain when using them (Eastman & Eastman, 2015) and the sense of community induced by the brand in common (Burnasheva & Villalobos – Moron, 2019).

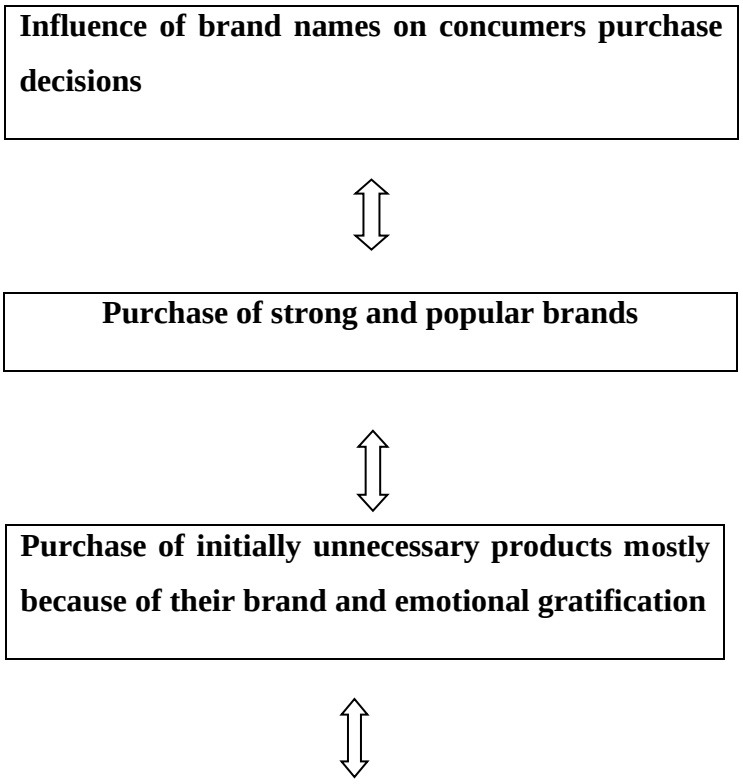
The research questions are: Is the purchase decision of strong and popular brands mainly driven by the brand name? Is the buying decision positively influenced by the brand, even if the customer initially does not need them, just for emotional satisfaction, prestige or sense of community? Does the purchase of these products change consumer's taste about them by turning their use into a habit?

The study will go on presenting the conceptual framework of the research, followed by the literature review, where the scientific background of this field will be shortly presented. In Albania

there is shortage of research in this field and given the importance marketing bears for the fragile business environment in Albania (Thoma, Kapaj, Boshnjaku & Muca, 2017) it is of a major importance to study such influence in this context. The methodology part is also tailored to the Albanian community, by using a structured questionnaire by addressing all kind of consumers, ages, education groups etc., to be as much as possible near the Albanian consumer reality. The results and discussions as well as the recommendations at the end will serve as a useful tool for future researchers in this field to give more importance not only to brands as an integral part of the marketing strategy of a company including marketing ethics (Alshurideh, M.T., Vij, A., Al Kurdi, B., Obeidat, Z. & Naser, A., 2016) as a part their corporate social responsibility, but also to the consumers, who are the most affected in their behaviour by the branding strategy of big companies, in order to be more aware of their buying decisions and what they mean to their lives.

The evidence of the relationship between brand name, purchase decision of strong and popular brands, purchase decision of innitially unnecessary products and the change of consumer's taste about the use of these products, has led to the following conceptual farmework:

Figure 1: Conceptual framework



Change of consumer's habits and taste about their use

Literature review

A customer is influenced by different aspects of a product during his buying decisions and for sure the brand name is one of them. A brand is defined as something which is offered from a source known to the customer and there are many associations linked to a brand name which influence the image people have on a brand (Kotler, 2018). But certainly there are also other attributes contributing to consumer the image that a customer has on a certain product. According to Kotler's (2018) marketing mix there are taken into consideration product, price, promotion and place to measure market productivity, which show indirectly customer choice preferences. For the first hypothesis are considered brand name, price and quality of the product, location and sales channel, product design and other. A brand name can have a stronger impact than other attributes on consumer choices, especially in certain circumstances, when customers have fewer information available on the product, such as often happens in cases of sensory search attributes (such as design) in online sales (Degeratu, Rangaswamy & Wu, 2000). Brand names are so important sometimes, that even their design and types of words or nonwords indicating the expected product benefit, can be decisive in the first interaction between a consumer and a product, helping later on in the memorization of the characteristics corresponding to the product (Hillenbrand, Alcauter, Cervantes & Barrios, 2013). Good marketers should know the power of brand names and that finding the adequate brand name might be less expensive, than image campaigns or relaunches facing the impacts of a poorly chosen name (Hillenbrand, Alcauter, Cervantes & Barrios, 2013). There are even other common characteristics what make the company names great. They should be sticky and memorable for the buyer as for the marketer, short, functional, bearing a story behind them and different by inventing their own language (Smith, 2018). Customers prefer buying products of brands they are aware of, i.e. they are familiar with, which reflects the ability of consumer's minds to identify the brand under different conditions (Keller, 1993). This likelihood and ease that a brand name comes to mind, because of the aforementioned brand characteristics and importance, is used in this paper to study further on, if Albanian customers, influenced by brand names, buy more products of known and strong brands rather than unpopular ones.

As a concequence **the first hypothesis** is that the brand name has a strong positive relationship with the consumer's buying decision for popular and strong brands. The variables chosen to prove this hypothesis are:

1. Consumers are influenced very much by brand names in their buying decision.
2. Consumers buy most of all products of popular and strong brands.

Some brands commend high levels of brand loyalty because of the perception on product performance (Alamgir, Nasir, Shamsuddoha & Nedela, 2010). But, as people buy specific brands not only for design and requirement, but also to enhance their self esteem in the society (Kardes, F.R., Cronley, M.L. & Cline, T.W., 2011), it is indicated to study further on the reasons why consumers buy such brands, the answer for which tries to give the second hypothesis.

The second hypothesis is, that popular and strong brands have a strong positive relationship with the buying decision for these branded products, even if they initially do not represent any importance for them. The variable used to prove it are the following:

1. Consumers buy most of all products of popular and strong brands.
2. Consumers do buy strong branded products which they did not use before, initially for emotional and practical satisfaction, prestige conferred by the brand, or feeling of community.

It is one of marketers aims and achievements that people buy things they don't need, for the sake of the lure to buy in stores, malls of internet and the emotional gratification and anticipated satisfaction that these discretionary purchases give to them (Danziger, 2004). These discretionary purchases often involve utilitarian purchase such as microwave ovens etc., indulgences such as costume jewelry, cosmetics, gourmet chocolates etc., lifestyle luxuries such as designer clothes, decorative furniture, gourmet appliances etc., and aspirational luxuries such as fine jewelry, vintage collectibles, original art etc. (Danziger, 2004).

To further on study the influence of the brand on consumer choices, it is important to have a look on the way consumers do engage with it. The so called three layers of engagement present a picture of the importance consumers give to brands according to the purpose of use and what meaning specific branded products have to them (Schmitt, 2011). Consumers usually collect information about brands and their utilitarian benefits (innermost layer), because of personal relevance of the brand to the customer (middle layer), or because of the interpersonal and socio-cultural perspective, which provide a sense of community (outer layer) (Schmitt, 2011). Of importance are

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also the five so called brand related processes, which involve identifying the brand, experiencing the brand, integrating the brand information in terms of brand personality and relationship, signifying by using the brand information for identity and as a symbol of culture, and connecting which implies to build a personal attitude as the result of brand attachment and after it becoming part of a brand community (Schmitt, 2011).

The third hypothesis is that purchase of initially unnecessary products because of their strong brands have a strong positive relationship with consumers taste about these products as suggested by the brand. There are taken in consideration two variables for this hypothesis, as follows:

1. Consumers do buy strong branded products which they did not use before, initially for emotional and practical satisfaction, prestige conferred by the brand, or feeling of community.
2. The use of these products return to habit as the brands "suggests" by changing the consumer's taste.

As we can derive from the data, for the third hypothesis of this study it is of relevance the outer layer of engagement and the process of connecting (Schmitt, 2011). The first variable implies the social engagement with the brand and the sense of community that the brand provides to the customer, because of the use of strong brands only for having an increased prestige and status in the society, not because of utilitarian reasons or because of personal importance first. And the second variable has to do with the process of connecting with the brand at a manner that a change in taste regarding specific uses of products takes place, turning these new brand dependency - driven (Bristow, Schneider & Schuler, 2002) buying behaviors into life habits and making the consumer automatically part of that brand community.

Methodology

The research methodology of a research paper determines the instruments of collecting and reviewing data (Perry, 1998). The data tryed to be collected were of a qualitative nature, therefore in order to better find out the kind of information required in this study, a questionnaire was used, structured with yes and no questions, as well as alternative and likert scale answer possibilities. The online questionnaire using Google Forms application was spread to 250 people through email and social media to a random sample of people of different age groups and interests as well as education and employment relationship, out of which 150 responded to it. This approach in

general gives the possibility to contact anonimously a high number of people simultaneously and keeping the social distance needed in times of the pandemia due to COVID – 19 because of an anonimous and indipendent submission at any time from their appliances. The information collected from these 150 respondents contained general information about brand and buying decision as well as brand influence on consumer's taste. The results are expressed in numerical form and were processed through the statistical programm SPSS using descriptive and correlation analytics to express the relationship between the different considered variables and to prove the raised hypothesis.

Table 1: Correlations for the first hypothesis

		Purchase of popular and strong brands	Price	Quality	Price and quality	Brand name	Other	Design
Purchase of popular and strong brands	Pearson Correlation	1	.404	.485	.761	.902	.404	.188
	Sig. (2-tailed)		.218	.131	.637	.05	.218	.579
	N	150	150	150	150	150	150	150
Price	Pearson Correlation	.404	1	-.100	-.149	-.289	.100	.100
	Sig. (2-tailed)	.218		.770	.662	.389	.770	.770
	N	150	150	150	150	150	150	150
Quality	Pearson Correlation	.485	.100	1	.149	.289	.100	.100
	Sig. (2-tailed)	.131	.770		.662	.389	.770	.770
	N	150	150	150	150	150	150	150
Price and quality	Pearson Correlation	.761	.149	.149	1	.430	.149	.149
	Sig. (2-tailed)	.637	.662	.662		.186	.662	.662
	N	150	150	150	150	150	150	150
BRAND NAME	Pearson Correlation	.902	.289	.289	.430	1	.289	.289
	Sig. (2-tailed)	.05	.389	.389	.186		.389	.389
	N	150	150	150	150	150	150	150
Other	Pearson Correlation	.404	.100	.100	.149	.289	1	.100
	Sig. (2-tailed)	.218	.770	.770	.662	.389		.770
	N	150	150	150	150	150	150	150
Design	Pearson Correlation	.188	.100	.100	.149	.289	.100	1
	Sig. (2-tailed)	.579	.770	.770	.662	.389	.770	

N	150	150	150	150	150	150	150

Results and discussions

For the first hypothesis were taken in consideration 6 independent variables regarding product attributes such as price, quality, price and quality together, brand name, design and others. From the correlation analysis of the two variables related to the first hypothesis the following table resulted:

From the table results that the correlation coefficient between the dependent variable „purchase of popular and strong brands" and the independent variable „brand name" is 0.92. This means, that they have a positive moderated connection. As the connection between the two variables is very near to the value of one, this means that brand name does play an important role in the buying decision of consumers. By comparing it to the pearson correlation also of the other variables, it can be said that the name of the brand influences the most the purchase of popular and strong brands, because the other variables have a lower coefficient. After it comes the price and quality variable, followed by the quality, price, other factors and at the end the design. At the same time, there is a Sig. 2 tailed value of 0.05 between our two variables of interest. This means that there is a statistically significant correlation between each of the variables. That means, increases or decreases in one variable do significantly relate to increases or decreases in the other variable. The hypothesis that the brand name is strongly related to the buying decision of consumers for popular and strong brands, does stand.

Regarding the **second hypothesis** that brand is strongly related to the buying decision for products, even if they initially do not represent any importance for them, the results are shown in the following table below:

Table 2: Correlations for the second hypothesis

		Purchase of initially unnecessary brand products	Purchase mainly of popular and strong brands
	Pearson Correlation	1	.891**

Purchase of initially unnecessary brand products	Sig. (2-tailed)		.03
	N	150	150
Purchase mainly of popular and strong brands	Pearson Correlation	.891**	1
	Sig. (2-tailed)	.02	
	N	150	150

From the results shown in the table above it can be derived that the correlation coefficient between the dependent variable and the independent variable is 0.891, which shows a positive moderate relationship. But this relationship seems to be very strong because the approximity to the value of 1. The Sig. 2 tailed is also less than 0.05. Therefore, the purchase mainly of popular and strong brands is strongly related to the purchase of initially unnecessary branded products mainly because of emotional satifaction, prestige and sense of community reasons, which confirms the hypothesis. Further on, following the conceptual framework of the study, for the third and the final hypothesis, which is also the main one, that the purchase of initially unnecessary branded products mainly because of emotional satifaction, prestige and sense of community reasons have a strong positive relationship with the change of consumers taste about these products, as "suggested" by the brand, the results are as follows:

Table 3: Correlations for the third hypothesis

		Change in consumer's taste	Purchase of initially unnecessary brand products
Change in consumer's taste	Pearson Correlation	1	.791**
	Sig. (2-tailed)		.02
	N	150	150
Purchase of initially unnecessary branded products	Pearson Correlation	.791**	1
	Sig. (2-tailed)	.01	
	N	150	150

The table above shows that the correlation coefficient between the dependent variable „change in consumer's taste" and the independent variable „purchase of initially unnecessary brand products" is 0.791 and the Sig. 2 tailed value shows a significant correlation. Even this shows a positive

moderate relationship, but not as strong as the other correlations above. Nevertheless, it can be said that the hypothesis stands, that the purchase of initially unnecessary branded products for the above mentiond reasons is strongly positively related to the consumer's taste about the use of these products in their daily life in the way the brand suggests it.

Conclusions and recommendations/implications

The purpose of the study is to investigate the relationship between brand name and purchase of strong and popular brands, between the purchase of strong and popular brands and the purchase of initially unnecessary branded products mainly because of emotional satifaction, prestige and sense of community reasons, as well as between the last one and the change in consumer's taste as the brand "suggests".

The results above show that brand name and purchase of strong and popular brands have a strong positive relationship, which means that the first hypothesis is supported. Further on the purchase of strong and popular brands and the purchase of initially unnecessary branded products mainly because of emotional satifaction, prestige and sense of community reasons, are also strongly positively related, which means that the second hypothesis stands. The study shows also that the purchase of initially unnecessary products mainly for the reasons above is strongly positively related to the change of consumer's taste about the use of these branded products. Herewith also the third hypothesis stands.

Indirectly this shows an increased ability of the marketers of the products offered in Albania to use the power of the brand in their marketing strategy, as an inseparable firm asset, especially in a still fragile economy. The latter, now in times of the pandemic, needs more than ever a boost of innovation and resource in every aspect of a business (Shipley, 2020). Managers and marketers should know about the possible effects of their brand and also the responsibility that it bears for „blind" consumers who consume initially only for emotional reasons, evenothough they do not really need these products. Marketeres should know about the brainwashing effect of strong brands (Singer, 2010) and use them wisely and ethically in terms also of corporate social responsibility and marketing (Alshurideh, 2016), not only in the interest of their brand equity. The results of this study are also important for the consumers themselves, to see how far their buying behaviour can

go and what it implies not only for their habits, but also seen in a bigger context, as small daily decisions can have a great influence on people's lives.

Nevertheless the study leaves an open path for further study to investigate the variables in terms of which influences most the other, in order to retrieve a more detailed information about the Albanian consumer's behavior regarding brand awareness and their related everyday's habits and tastes, which could be of a greater importance for the Albanian businesses and consumers in particular and its economy in general.

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Unfair terms in consumer credit contracts, protection of consumer rights

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Abstract

Consumer credit contracts are standard contracts, which means that the terms of the contract are drawn up by one of the parties (the trader). The limited display of consumer will, finds them vulnerable to unfair and aggressive practices imposed by traders. Although the role of the consumer contract in Albanian society has grown rapidly, there are very few studies in this area. This paper aims to clarify the concept of consumer credit contracts; contractual practices and conditions/terms which are considered unfair in accordance with European Union legislation; as well as the responsibility of traders regarding specific/practical cases. This paper will focus on legal remedies and means by which the protection of the rights and interests of consumers who have suffered damage due to unfair terms imposed on consumer contracts, will be realized.

Keywords: *consumer, credit contract, unfair terms, trader*

Introduction

The beginnings of consumer credit date back 5,000 years to ancient Greece. From the code of the Hammurabi to the documents of ancient Rome, the loan has been used for purposes such as land acquisition, land use, etc. The Sumerians (3500 BC), were the first modern civilization to use consumer loans/credit for agricultural purposes. However, the written rules for consumer credit contracts were formalized in the Hammurabi Code in 1800 BC[29]; while the formal loan agreement took form only in 50 BC, according to evidences given by Cicero (50s BC)[30]. On the other hand, the birth of Christianity brought about a lower use of this contract because of their association with high interest rates or unjustified interest rates. Although foreign traders and Jews, who were not subject to such obligation, continued to use consumer credit contracts through the lending of

[29] The highest interest rate projected was 20% per annum for gold.

[30] Gelpi R. M. (2000). *History of consumer credit* (pp.3). London:Macmillan.

money. With the onset of the French Revolution in October 1789, consumer interest loans, mainly for use and in aid of small business, were legalized. The sellers made a specific note of any non-repayable purchases from customers.

In Albania, the beginnings of the consumer credit contract date back to the Lek Dukagjini Canon (15th century). A genuine credit contract cannot be claimed during this period, but we can identify it with the loan relationship/contract as one of the old forms of modern credit. The two main features of this contract are the lack of interest rate, as well as the use of the pledge as a means of ensuring the fulfillment of the obligation in case the borrower fails to repay the obligation within the term established by agreement between the parties[31]. Along the same line even the Civil Code of 1929, does not include the consumer credit contract, but we readily refer to the loan contract as one of the forms of consumer credit[32]. Even in this case, the loan contract lacked the element of interest. According to the 1981 Civil Code, in line with the country's political changes, where commercial banks were almost non-existent, the Bank of Albania was designated as the only financial lending institution[33].

Currently, law no. 9902/2008 "On Consumer Protection", as amended, makes a special adjustments to the consumer credit contract. However, from the analysis of the content of the law we find that the regulation attributed to this contract is made by only two specific articles (articles 44 and 45 of law no. 9902/2008, as amended). On the basis of the principle that "*the law should be read in its entirety*", unfair terms in consumer contracts will apply directly to consumer credit contracts as well. This law specifically in its 44 article provides the definition of consumer credit, considering it as an agreement whereby a lender gives or promises to a consumer a loan in the form of a payment deferred[34], lending or other similar financial arrangements[35].

[31] Luarasi A. (2007) *Historia e shtetit dhe e së drejtës në Shqipëri*, (pp. 233-234). Luarasi Press, Tiranë.

[32] Article 1766 of the Civil Code provides:

"There is no interest on loans when these are not stipulated."

[33] Article 302 of the Civil Code 1981 provides that: "Loans granted by the Bank of Albania in the form of loans, financing or in any other form, as well as loans granted to nationals shall be governed by the provisions of the Council of Ministers".

[34] The concept of deferred payment implies that the consumer enters into a consumer credit agreement with the bank, and after all conditions are set he will begin to pay interest while the loan disburses at a later time when the consumer needs to use it. Payment of interest precedes the timely delivery of consumer credit.

[35] Article 44, law no. 9908/2008 "On consumer protection", as amended.

Under Italian law, consumer credit is a contract under which a loan is given in the form of deferral of payment, financing or similar financial relief to a natural person acting for purposes not related to entrepreneurial or professional activity. Credit is granted by authorized parties to sell goods and services in Italian territory. The only entities authorized for consumer lending are banks and other financial institutions[36]. A loan is usually associated with the purchase of a good or service by the customer, but can also be used to meet the liquidity needs, derived from the purchase of specific goods and services[37]. Directive 2008/48/EC defines consumer credit as an agreement whereby a creditor lends or promises to provide a consumer loan in the form of deferred payment, loan or other similar financial accommodation, with the exception of continuous service provision agreements or supply of goods of the same kind contracts where the customer pays for these services or goods for the duration of their supply in installments.

Literature review

The consumer credit contract is a mutual legal action, consequently there are two parties, the consumer and the trader, who may be the seller, the producer, the supplier of goods or services, the bank or the financial institution. More specifically, the lender and the borrower/consumer are the subjects of the consumer credit contract. Banks, branches of foreign banks operating in the Republic of Albania, as well as non-bank financial entities, in accordance with the license issued by the Bank of Albania[38], are in the position of lender. Whereas the borrowers are the customers according to the law no. 9902/2008 as amended[39], including persons who use the loan to meet personal needs for purposes not related to commercial activity or to the exercise of their profession,

[36] Codice Italiano del consumo, articles 40-43.

[37] http://www.legaconsumatori.it/risparmio/cod_cred_consumo/.

[38] Bank of Albania Supervisory Council Regulation, Article 3.

[39] "Customer" is any person who purchases or uses goods or services for the fulfillment of personal needs for purposes not related to commercial activity or the exercise of his profession. For the purposes of this law, non-profit organizations are also considered as consumers. Reference to the law on Consumer Protection, article 3/6.

including non-profit organizations (NGOs). Referring to the adjustments made by the Bank of Albania, the concept of consumer credit already includes overdraft and credit card loan contracts[40].

The Albanian legislature has set the limits, in accordance with which we are in front of consumer credit and the specific moment when the consumer enjoys special protection by law no. 9902/2008, as amended. We have consumer credit when the total amount of the loan includes an amount greater than ALL 30,000 but not more than ALL 10 million. So the loan will be called consumer loan if its amount will be from 30 thousand ALL to 10 million ALL. Directive 2008/48/EC "On consumer credit" lays down the limits of this loan from EUR 200 to EUR 75 thousand, whereas the former Directive 87/102/CE set the limit from EUR 200 to EUR 20 thousand. In its content, however, Directive 2008/48/EC provides for the possibility for the Council of Ministers to review these limits.

Commercial banks are obliged to provide consumers all necessary information, clearly and in detail, prior to the conclusion of the contract. Such obligation stems from the need to protect consumers whose knowledge of the bank or financial institution and specific laws is limited in quality and quantity[41]. In this regard, the consumer credit contract appears to us as a formal contract, the validity of which is required by the form prescribed by law[42]. Before a customer chooses a product or service, licensed banks/financial institutions provide him with all the necessary information on the terms, conditions and interest rates, the risks associated with obtaining the product or service, as well as commissions and penalties, where them becomes applicable. In this context, the European Union legislation provides through the European Standard Consumer Credit Information a list of data to be provided to the consumer regarding the lender and the credit intermediary[43].

Results and discussions

[40] Teliti E. (2013). *Kontratat konsumatore (Kredia konsumatore dhe kontrata e paketave të udhëtimit)*. (pp. 75). Tiranë.

[41] Law no. 9902/2008 "On Consumer Protection", as amended, article 4/dh.

[42] Law 9902/2008, as amended, Article 44, paragraph 4, provides: "*Credit agreements are drawn up in writing or by any other durable means and a copy thereof is provided to the parties*."

[43] https://ec.europa.eu/info/sites/info/files/standard_european_consumer_credit_information_en.pdf.

Consumer credit contracts are standard contracts. Using standard contracts is meant to save time and costs for the bank. Standard conditions nowadays are widespread as they avoid the negotiation procedure between the parties. The need for such contracts is not discussed, but must be found the proper form and way of balancing the advantages and disadvantages that arise from them. As standard contracts do not display the true will of the consumer, there is a need for controlling them by the legislation and/or the competent authorities. As such, the terms of this contract are set by one of the parties to the contract. The customer does not participate in the negotiation and determination of the terms of the contract but only approves them at the time of signing the credit contract. In practice, it is often the case that the terms set out in consumer credit contracts are in favor of one contractual party and to the detriment of the other.

In accordance with Directive 93/13/EC, a separately negotiated contractual term is considered unfair if it, contrary to the principle of good faith, results in significant disparities in the rights and obligations arising out of the parties' contract to the detriment of the consumer. For a contractual condition/term to be considered as non-negotiable, it must be drafted in advance and the consumer is unable to influence the content of this condition. A term in a consumer credit contract will be considered unfair if it cumulatively fulfills the following three conditions[44]:

a) The term creates significant disparities between the rights and obligations of the parties contemplated in the contract.
b) The placement of the term in the contract is not necessary for the protection of the legitimate interests of the party who benefit from this term.
c) The existence of the term would cause a harm (whether financial or otherwise) to the party having the obligation to enforce it.

European Community Directive 93/13 "On unfair terms in consumer contracts"[45] specifies that unfair terms are nothing but contractual terms, but this do not give us a clear definition of what we mean by contractual terms. The Court of Justice of the EU, in such a case, where the explanation from the Directive is lacking, serves as the final arbiter in interpreting most of this legislation[46]. In

[44] A guide to the unfair contract terms law, Australian Consumer Law (2010). (pp. 11).

[45] Council Directive 1993/13, "Unfair terms in consumer contracts" - The purpose of the Directive is to strengthen the European internal market and at the same time provide greater protection for consumers regarding unfair conditions in consumer contracts, including the contract for the sale of consumer goods we are handling.

[46] Ewoud H. (2006). *Unfair contract terms and the consumer, ECJ cases and their impact to Dutch law*, (pp. 457-472).

this context, contractual terms are nothing but terms present in the contract that specify one or more rights and/or a set of obligations to the parties to the contract. Thus, contractual conditions regulate the conduct of each of the parties to the contract in relation to the other party, in accordance with Article 3, paragraph 1 of the Directive, to whether or not they are regarded as unfair terms[47].

Law no. 9902/2008 "On consumer protection", as amended, defines what are the unfair terms in consumer contracts, in accordance with the content of the Directive[48]. Furthermore, the law in Article 2 thereof also refers to the Civil Code of 1994[49], as amended, which lays down the general conditions which, in specific cases, increase the protection afforded to the consumer[50]. Althought the "*lex specialis derogat generalis*" principle is widely applied, we conclude that in any case where special provision from law no. 9902/2008 is missing, the reference is made to the Civil Code.

According to the EU Court of Justice[51], a contractual condition is unfair within the meaning of Article 3, paragraph 1 of Directive 93/13/CE, unless it is drafted in clear and comprehensible language. The court continues its interpretation by holding that, if the effects of a contractual condition are set out in mandatory legal provisions, it is the trader's obligation to inform the consumer of those provisions. Even if Rome 1 Regulation "On the Law Applicable to Contractual Obligations" applies[52], the choice of the applicable law to consumer contracts should not result in the deprivation of consumers of the protection afforded to it by provisions which cannot be circumvented by the agreement in force, which would be applicable in the absence of the choice of law. Pursuant to law no. 9902/2008, as amended, to determine the unfairness of the condition / contractual conditions, a number of elements are considered such as:

a) the nature of the goods and services to which the contract relates;

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[47] Loos M. & Luzak J. (2016) *A Bigger Stick On Unfair Terms in Consumer Contracts with Online Service Providers*. Volume 39, (pp. 63 - 90). Journal of Consumer Policy.

[48] Law no. 9902/2008 "On Consumer Protection", as amended, Article 27, paragraph 1.

[49] Civil Code 1994, as amended, articles 686-688, general conditions of contracts.

[50] Dollani N. (2011). *Kushtet e padrejta në kontratat konsumatore, zhvillimet aktuale në BE dhe impakti i mundshëm mbi të drejtën civile shqiptare* (pp. 99). Tiranë: Revista Studimet Juridike.

[51] C-191/15, *Verein für Konsumenteninformation v. Amazon EU Sàrl* (2016).

[52] Article 6 (2) of EC Regulation no. 593/2008 of 17 June 2008 on the Law Applicable to Contractual Obligations ("Rome Regulation I").

b) time of contract conclusion;

c) the accompanying circumstances of the contract;

d) other terms of the contract or another contract on which it is dependent[53].

This provision must be taken into consideration along with Article 681 of the Civil Code, which states that the court in interpreting the contract assesses the conduct of the parties before and after the conclusion of the contract[54]. The same, but more detailed, is provided for in the Italian Consumer Code, Article 34 thereof[55]. Not all conditions, regardless of how they are drafted and contracted, are unfair. Therefore, it is intended to identify specific and explicit elements to make it easier to identify conditions that should be considered unfair[56].

Also, law no. 9902/2008 "On Consumer Protection", as amended, makes a detailed forecast of the unfair terms and the consequences they bring[57], in order to be in line with European directives and legislation, in the context of harmonization of legislation, even when it is about respecting the principle of transparency[58]. The principle of transparency contains two main standards, simplicity and comprehensibility[59]. Two standards closely related to consumer protection that coincide with the clarity of the terms set out in consumer contracts. Between the parties to the consumer credit

[53] Law no. 9902/2008 "On Consumer Protection", as amended, article 27, paragraph 3.

[54] Dollani N. vep. e cit., (pp. 117).

[55]Codice Italiano di consumo, Articolo no. 34; *Accertamento della vessatorietà delle clausole*, provides:

"*1. The unfair nature of a clause is assessed taking into account the nature of the good or service under the contract and referring to the circumstances existing at the time of its termination and other terms of the same or another contract, or from which It depends.*

2. The assessment of the harassment of the clause has nothing to do with the determination of the scope of the contract, nor with the sufficiency of consideration for the goods and services, provided that these elements are clearly and completely identified ... ".

[56] Unfair contracts terms, Your Europe. (2018).

https://europa.eu/youreurope/citizens/consumers/unfair-treatment/unfair-contract-terms/index_en.htm.

[57] Law no. 9902/2008 "On Consumer Protection", as amended, Article 27, paragraph 4.

[58] Law no. 9902/2008 "On Consumer Protection", as amended, Article 28, paragraphs 1 and 2:

"*1. In the case of contracts, where all or some of the terms offered to customers are in writing form, then these must be presented in a comprehensible wording. If there is any doubt about the meaning of the contract, then the interpretation is in favor of the customers. etc...*".

[59] Dollani N. vep. e cit. (pp. 121).

contract, at the time of termination of the contract and then with its content implementation, must prevail "*the good faith*" principle[60].

Directive 93/13/EC requires Member States to take all necessary and effective measures to prevent the use of unfair conditions[61]. It is therefore up to the Member States to decide on the consequences and validity of these conditions. A considerable number of countries, including Albania[62], consider the unfair conditions absolutely invalid[63]. So these conditions, which are considered unfair have no effect, are *null* and will be considered as never being a part of the contract. The invalidity of one or more conditions in the contract of consumer credit does not necessarily render the whole contract invalid. Such a consequence is determined by taking into account the role that the unfair condition has on the contract, as well as the possibility of the rest of the contract to bring valid effects despite the invalidity of the unfair condition.

Thus, as a rule of law, the invalidity of an unfair term does not extend to the whole contract, unless the invalidity of the unfair condition renders the whole contract invalid, due to its indivisibility from the rest of the contract[64]. The same prediction is found in the content of law no. 9902/2008, as amended, which stipulates that other contractual terms, following the invalidity of the unjust condition, remain binding on the parties if further contract implementation is possible[65]. The Italian Consumer Code provisions for the invalidity of unfair conditions are more detailed than Albanian law. After asserting that the unfair conditions are *null*, which brings "*ex tunc*" consequences, it

[60] Civil law forum for South East Europe; Collection of studies and analyses; Second regional conference, Skopie, 2012. Volumi 1. Dollani. N. *Unfair contract terms in contract law of the Republic of Albania*, (pp 170-173).

[61] Article 7, Directive 1993/13 / CE.

[62] Law no. 9902/2008 "On Consumer Protection", as amended, Article 28, paragraph 2 provides:

"*2. In case the condition/term is considered unfair, it is considered invalid from the time the contract is concluded...*".

[63] Dollani N. vep. e cit. (pp. 123-125).

[64] In addition to the provision made by Article 111 of the Civil Code of the Republic of Albania, the invalidity of the general conditions of the contract also refers to Article 686, paragraphs 2 and 3 of the Civil Code of the Republic of Albania, which states that:

"*The general conditions which cause a disproportionate loss or damage to the interests of the Contracting Party are void, especially when they differ substantially from the principles of equality and impartiality expressed in the provisions of this Code governing contractual relations...".*

[65] Law on Consumer Protection, as amended, Article 28, paragraph 2, second sentence:

"*Other contractual terms remain binding on the parties and further implementation of the contract is possible*".

also claims that this invalidity is found ex-officio by the court[66]. Such a forecast is made in the context of consumer protection. Although law no. 9902/2008 does not clearly state that, since the invalidity of an unfair condition is an absolute invalidity, the court is entitled ex-officio to declare that condition invalid, thereby fulfilling the purpose of Directive 93/13/CE[67]. In the interpretations made by the Court of Justice of the EU in various cases, we conclude that the national courts of the Member States should relinquish their passive role and act ex-officio in order to protect consumer rights in relation to ascertaining and invalidating unfair terms in consumer contracts[68].

Conclusions and recommendations

- Consumer credit is any agreement where a lender gives or promises to give a consumer a loan in the form of deferred payment, lending or other similar financial arrangements.
- A loan is related to the purchase of a good or service by the consumer, but may also be used to meet the liquidity needs derived from the purchase of specific goods and services.
- Under Directive 2008/48/EC consumer credit constitutes an agreement whereby a creditor lends or promises to provide consumer credit in the form of deferred payment, loan or other similar financial accommodation, with the exception of arrangements for the provision of continuing services, or the supply of goods of the same kind where the customer pays for these services or goods for the duration of their supply in installments.
- The consumer credit contract is a formal contract, it must be concluded in the form and according to the procedure provided by law. Its concussion goes through two stages, proposal and acceptance.
- The consumer credit contract is a mutual legal action, there are two parties, the consumer and the trader, who may be the seller, the producer, the supplier of goods or services, the bank or the financial institution.

[66] Article 36, Codice Italiano di Consumo, Nullita di protezione, paragraph 1 and 3.

[67] Two of a series of decisions taken by the ECJ on the ex-officio action of national courts in finding the invalidity of unfair conditions: Judgment of the Court of 27 June 2000 - Océano Grupo Editorial SA v Roció Murciano Quintero (C-240/98). Judgment of the Court of 21 November 2002 - Cofidis SA v Jean-Louis Fredout, (C-473/00).

[68] Ebers M. (2010). *Europian review of private law*, volume 18, Issue 4, Berlin: UTET.

- The concept of consumer credit also includes overdraft and credit card loan contracts, the total value of which should be more than ALL 30,000 but not more than ALL 10 million.
- Commercial banks are obliged to publish prominently and clearly on their websites and in their workplace information on loan and deposit interest rates, as well as commissions on the products and services they provide to customers.
- Consumer credit contracts are standard contracts. The customer does not participate in the negotiation and determination of the terms of the contract but only approves them at the time of signing the loan contract.
- European Community Directive 93/13 "On unfair terms in consumer contracts" specifies that unfair terms are contractual terms, but does not provide a clear definition of what we mean by contractual terms.
- Law no. 9902/2008 "On consumer protection", as amended, makes a detailed forecast of the unfair conditions and the consequences they bring, being in line with European directives and legislation, in the context of harmonization of legislation, even when done words about respecting the principle of transparency.
- As a rule of law the invalidity of an unfair condition does not extend to the whole contract, unless the invalidity of the unfair condition renders the whole contract invalid, due to its indivisibility from the rest of the contract.

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Excise tax in Kosovo and harmonization with the acquis communautaire - comparative analysis

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Abstract

The purpose of this paper is to analyze and elaborate the role and manner of functioning of the Excise Tax in Kosovo since its establishment until now, and to analyze the harmonization and degree of compatibility of Kosovo excise legislation with that of the EU, and to identify obstacles and challenges during this very important process in Kosovo's journey towards the EU.

The paper addresses some of the important issues related to excise tax in Kosovo and their harmonization with the acquis Communautaire, the current legislation which is in force in the European Union. Their structure and functioning, and their impact on budget revenues in Kosovo, and their fiscal role in the country's economic growth and development.

The methodology used consists of a combination of historical, comparative and empiric.

The paper is realized in the structure defined on the basis of the knowledge gained in the excise profile and based on qualitative data obtained from books, studies, electronic libraries and the legislation of the Republic of Kosovo and the EU.

Keywords: *Kosovo, Customs, European Union, Exise.*

Introduction

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Harmonization of legislation in a general sense is a process of gradual reduction of differences and obstacles between our excise system and that of the European Union and since the topic in question is also the topicality of social and economic development, then I think that its treatment is stable.

Also this scientific study will try to fill a gap in the information literature on the excise system in our country and I will make such an analysis of the functioning of other instruments and mechanisms available to the excise system and the role that have in setting up businesses and the economic market in general.

It will also talk specifically about the harmonization of customs legislation in the context of excise tax in relation to harmonization with EU directives on excises, solutions offered in accordance with the European Customs Code, Kosovo's achievements in the process of harmonization of legislation in this field and the challenges it faces during this very important process, so that in the near future Kosovo will be as close as possible to the European Union, where it has its purpose

The main question raised in this paper is: How functional is the Excise Tax in Kosovo and how harmonized is it with the excise tax of the European Union and the acquis Communautaire and customs policy in general, in relation to this hypothesis other hypotheses are raised such as:

What are the differences and meeting points between the excise legislation of Kosovo and that of the European Union?

Should excise taxes be oriented only to the fiscal function, or should they be further expanded in their protective and economic function, etc.

The concept of excise tax in Kosovo

Excise tax is a tax on the sale of particular goods or a tax on a good produced for sale or sold within a country. Excise duties are different from customs duties, which are taxes on imports. In common terminology (but not necessarily in law), the excise tax is usually applied to a narrower range of products, is usually higher, accounting for a larger share of the retail price of products and is usually a tax per unit of product purchased, which means a certain amount for a volume or unit of product purchased. Excise tax is an indirect tax on certain products set by the government. Consumption of certain products such as alcohol, cigarettes or gasoline is often accompanied not only by the usual general sales tax or VAT, but also by an additional tax called excise tax (Kesner-Škreb, 1999).

Legal relations related to excises in Kosovo are regulated by Law no. 03 / L-109 on the "Customs and Excise Code in Kosovo", Law no. 03 / L-112 "On excise tax in Kosovo", Law no. 04 / L-185.

"On special excise tariffs for initial production and small production of alcoholic products produced in Kosovo", Law no. 04 / L-021 On excise duty on tobacco products, etc.

This legal norm regulates the legal relations, which have to do with the determination of excises, conditions, procedures, rights and obligations, to which the subjects of excise are subject, such as issues related to the rules for the collection and administration of revenues from the tax authorities for goods which are subject to excise duty. The taxpayer of excise goods taxes of the producer is the importer. Excise rates are different for all products. Excise duties on imported products are collected together with customs duties, while excise goods of local origin paid before being issued in circulation (Dimanoski & Zdravkoski, 2011). The main purpose of their introduction is fiscal character. Unlike sales tax, which appears to be general, excise taxes are represented as separate consumption taxes (Goranović, 2008).

Excise duties, as a separate type of purchase tax, in Kosovo were first applied in 2000 with the UNMIK / REG / 2000/2 Regulation of 22 January 2000 on excises in Kosovo and were paid for the purchase and import of derivatives. Oil, tobacco processing, alcoholic beverages, beers, coffee, passenger vehicles and other luxury goods.

All legal entities and natural persons, who plan to be producers or importers of excisable goods, are obliged to submit a written request to the body, respectively the customs administration, the Excise Sector in the Kosovo Customs, to be registered. In the register of excise taxpayers and the basic price for the payment of excise tax is the sale price at which the excise tax is calculated. During the import of goods, at the customs base of the goods, which includes customs duties and other manipulative import expenses, the excise tax is calculated. We can say that it is a wide range of goods, in which excise taxes are applied and this also depends a lot on budget planning and is part of macroeconomic policy. In addition to the fiscal character, is the collection of revenues for the state treasury, through this tax it is attempted to achieve other effects, such as social, health, ecological, etc.

Meanwhile, excise rates and forms of their implementation in Kosovo are regulated by the law on excise tax in Kosovo (Law no. 03 / L-112). This law regulates the excise tax rates for goods presented in Annex A of this law, which in the territory of the Republic of Kosovo are issued in free circulation. This law regulates the maintenance, control, as well as sets the specific rules on excise that applies to the consumption of service, alcohol and alcoholic beverages, tobacco and other by-products which are subject to excise tax.

Meanwhile, excise tax exemptions under this law on production, heating and raw materials must be approved in advance by Customs for the purposes of Article 236 of the Customs Code and Excise Duties in Kosovo, which will also apply to special tariffs on manufactured goods in Kosovo.

From the acquaintance with the Customs Legislation of the Balkan countries and the European Union, and from the analysis of the use of the organization and the competencies we can find in their customs administrations, we conclude that the administration of excise duty both in import and inland is an attribute of customs administration. In Kosovo, excise duties are controlled and managed by Customs. All excise taxes collected by Customs are deposited in the Kosovo Budget (Kosovo Customs and Excise, Code L03 / 109, Articles 134 and 136).

Objectives and effects of excise tax application

The main features of special taxes such as excise duty are the limited purpose of their implementation and the lack of differences in the tax treatment of domestically produced and imported products. There are a number of reasons that justify the introduction of such a tax, such as excise duties on turnover and their maintenance in tax systems. Among many other reasons are:

- Establishing a more direct link between the amount of tax paid and the taxable benefit
- The concern that consumers are returning (discouraged) from using some of the products that are harmful, such as alcohol, tobacco, etc. namely, that tax policy also affects the reduction of consumption of those products
- Penalization of consumers who use certain products due to possible negative consequences in society, which are considered socially undesirable
- Taxation of the market of some products in order to reduce environmental pollution where we live (such as plastic bags or used car tires).
- Providing the necessary funds to finance public expenditures - specifically financing the expenditures of local units.

Today the structure of indirect taxes with special excise accent has been simplified and three tax forms of special taxes have been emphasized in circulation, which are special taxes on oil products, special taxes on tobacco and tobacco products and special taxes on alcohol and alcoholic

beverages. In OECD countries, special sales taxes account for about 10-12% of total revenue (Šimovic & Šimovic, 2002). Non-fiscal reasons in modern states for the application of excise taxes are usually made to gain public benevolence and the electorate, by various political programs. The most important non-fiscal reasons are:

- Social reasons
- Health reasons
- Ecological reasons
- Principle of general utility
- Due to the increase in the prices of imported products (Šimovic & Šimovic, 2002).

The introduction of excise taxes for social reasons is justified by the fact that each entity should be involved in financing public needs in accordance with their economic capabilities, so it is understood that citizens with lower economic strength will not buy products that are subject to tax of excise duty against those whose economic power is higher.

For health reasons, the introduction of excise taxes as a special tax on sales is great, the consumption of certain products that have negative effects on human health. This refers to the consumption of tobacco and alcohol products and alcoholic beverages. In addition to health, excessive use of these products directly affects the increase of health care activity by institutions and health care personnel, thus increasing government spending.

For ecological reasons, a special sales tax (excise) is subject to products, the use of which causes a negative impact on the natural environment and limited natural and non-renewable energy sources. This actually refers to the consumption of oil and petroleum products and natural gas. By applying higher excise rates to oil and petroleum products, they want to encourage a more rational use of its limited resources, thus increasing the price of products, the consumption of which negatively affects the natural environment.

Excise tax structure as a separate revenue into the Kosovo budget

The obligation to pay excise tax can be presented: On the occasion of the import of excisable products, according to the rate of obligation that is in force. For tobacco products or alcoholic beverages, the excise tax liability arises on the occasion of the application for stamps or control banners through a request to the Kosovo Customs, and on the occasion of the purchase of these excise stamps and in fact the excise tax is paid, it is still not imported goods.

In cases where the manufacturer of excisable goods exports with those excisable goods, e.g. wine export, he has the right to return the excise tax, respectively enjoys the right to exemption from excise tax, documenting to the customs administration the customs document of export of goods, from Kosovo to the country where he was exported and to pay the fees that has paid for that commodity (which has already been exported), the excise tax paid is refunded (this is considered reversible excise).

In the case of release of excisable goods into free circulation for consumption, which goods are found in advance under the suspension agreement, respectively, when the goods are in the warehouse of excisable goods provided by applicable law for warehouses of excisable goods and in the absence of ascertained excisable goods.

The types of excise tax applied in our country are divided into import excise and produced in the country. This type of tax can be calculated as compliant with European Union (EU) directives.

Excises are paid directly or indirectly for consumption in the territory of Kosovo, which in this sense represents excise territory. Excises are paid for these goods:

- Mineral oils (petroleum products),
- Alcohol and alcoholic beverages and
- Non-alcoholic beverages
- Tobacco
- Vehicles

Meanwhile, until recently, the excise rate on coffee products has been applied, which has been removed as part of the harmonization of legislation in this area with the countries of the region and beyond, and being considered as an almost necessary product, in order to eliminate informality from this sphere of goods, it has been removed as a luxury tax since 2014, in the legislation of Kosovo and the same commodity (coffee) is no longer subject to excise tax.

Since 2012, excise taxes have been imposed on goods that are considered in one form or another may affect environmental pollution in Kosovo, and excise tax has been imposed on plastic bags, used tires and electric bulbs, and since 2015 also in fireworks and other related products, such as lighting rockets and other pyrotechnic products from the tariff code 3604. The same excise taxes as special as their kind have been applied through government decisions as a measure of environmental protection policies and ecology.

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The following table presents in tabular form the types of goods that have been assigned a special excise tax, for the protection of the environment where we live.

Table 1:

Excise rates and trade policy measures for goods, which are considered pollutants for the environment

Type of goods to which excise duty is applied	Excise code	Excise rate	Trade policy measures
fireworks; lighting rockets and other pyrotechnic articles:	3604	2.00€/kg	Import license from the Ministry of Interior is required
Used tires	4012	5.00€ for piece	/
Biodegradable plastic bags	3923	3.00€ KG	Import license from the Ministry of Interior is required
Non-economical electric pots	8539	0.30 € for piece	/

Source: The data was obtained from Kosovo Customs and processed by the author.

The main purpose in this case, in addition to that of revenue, is primarily the protection of the environment and ecology through the increase in the price of plastic bags, for him the issue of tires is to increase traffic safety and reduce accidents, and electric bulbs the goal is to ensure a saving of energy expended and economic exploitation of energy.

In 2011, the excise rate was set for all games of chance, casinos, betting, etc. and based on the type, the special excise payment rate has been set and this as a good instrument of revenue collection from a profit-making activity and considered as a luxury activity and which for the budget is considered as a fiscal instrument.

We can conclude that excise revenues are part of the revenues collected by the Customs Administration and are part of the structure of public revenues, to a large extent and where their regular collection ensures a sustainability of the country's budget and take an irreplaceable place in the overall structure of public spending. In the following presentation the new table is the data on excise revenues in millions of Euros and their participation in the total revenues collected by Customs.

Table 2: Excise revenues in millions of Euros and their participation in general customs revenues

Year	Excise tax	Total customs revenue	Percentage of participation
2014	315,437.234€	870,978.222€	36.21%
2015	360,632.851€	937,711.876€	38.45%
2016	403,295.575€	1,051,419.363€	38.35%
2017	432,279,341€	1,121,097.109€	38.55%
2018	418,903.169€	1,135,015.816€	36.90%

Source: Official data from the Kosovo Customs, prepared by the author.

Based on the table above, the amount of excise duty on regular liabilities of general import realized by Kosovo Customs for the period 2014 - 2018, we can conclude that excise tax as a special sales tax enjoys a serious participation, starting with 36.21% of total revenues generated by customs in 2014, respectively 38.45% for 2015, a significant upward trend, continuing in 2016 with 38.35% and 2017 with 38.55% with almost the same trend as a slight increase and ending with a slight downward trend in 2018 to 36.90% of total customs revenue. From this we conclude that the trend of excise revenues constitutes an approximate percentage with a share that brings in more than a third of customs revenues, while in the last year the decrease of about 2% can be explained by the rates of gradually releasing excisable products coming from the EU, as part of the release package under the SAA Stabilization and Association Agreement.

EU legislation regulating excise tax

The excise billing system in the EU member states, according to the structure and amount of the tax burden, are different and depending on economic, cultural, social and other circumstances. Under EU law, excise tax is mainly applied to three groups or branches of goods.

-Tobacco products
-Mineral oil products
-Alcohol products

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The joint excise system in the European Union entered into force on January 1, 1993, where a common position was reached on the application of excise duties, focusing with particular emphasis on the circulation of tobacco, alcohol, energy products (oil derivatives, oil , natural gas, and electricity), as mandatory products subject to excise tax.

Member States may introduce and excise other products, for which each country independently determines a taxation system, provided that it does not impede the free cross-border movement of goods and persons. The rules governing excise duty in the EU were widely adopted during 1992, regarding the creation of a single domestic market and the purpose of enabling the free movement of people, goods, services and capital. The legal basis for a harmonized excise system is found in Chapter II on tax provisions in Article 93 of the Treaty establishing the European Union (Antic, 2011). Progress has also been made in harmonizing the percentages of excises, the structure of excises (defining products in different measures and in exceptions) as well as in the circulation of goods which are taxed with excises in the member states (Peci, 2018).

Directive 92/12 / EEC (Council Directive, 1992) of 1 January 1993 (Kulis, 2005), is a general document, fundamental to the harmonization of the excise system, which regulates the possession, movement and monitoring of alcoholic beverages, tobacco products and mineral oils, petroleum products (alcoholic beverages), manufactured tobacco, mineral oils) that are taxed with excise duties. Due to considerable difficulties in the process of harmonization and change in the political and economic aspect and the accession of new members, Instruction 92/12 / EEC have been amended several times (Council Directive, 1992). In addition, general guidelines for each group of these products are provided with specific guidelines for determining the excise structure (product definition, tax base, and tax exemption, temporary) and guidelines for which the norms to be applied are, so they are defined.

The excise duties on tobacco products in the EU are imposed on tobacco products and what they include, cigarettes, cigarillos and tobacco. Taxation of excise tobacco products was regulated at EU level and came into force on 1 January 1993.

With Directive no. 92/79 (1992) / EEC on harmonization of cigarette taxes, excise duty on cigarettes is calculated in two methods, per unit of product (per cigarette) and proportionally. With a special method, i.e. per unit of product (per unit), a minimum excise tax of 60 Euros per 1000 cigarettes was determined, which are the most popular categories in sales. With the method

proportional (ad valorem), the rate is determined to be not less than 5% or more than 55% of the total tax contained in the maximum retail price.

Alcohol and alcoholic beverages taxation is usually regulated for EU countries and has been applied since January 1, 1993. First, Directive 92/83 / EEC on the harmonization of the excise structures of alcohol and alcoholic beverages determine:

• Types of alcoholic products that are taxed (beers, wine, fermented products different from beer or wine, intermediate products and ethyl alcohol contained in beverages)

• The possibility of reduced rates for small manufacturers of small factory and small distilleries, whose annual production is not more than 200,000 hectoliters

• Ability to apply a reduced rate for certain drinks

• Special tax procedures for certain areas in Spain and ethyl alcohol used in processing and chemical production or excise-excluded medical needs

Alcohol and alcoholic beverages set minimum rates for: beer 0.748 Euros per hectoliter (depending on the concentration of malt) or 1.87 Euros per hectoliter (depending on alcohol content), wine and carbonated wine, intermediate (e.g. dry wines, liqueur wine): 45 Euros per hectoliter and pure alcohol: 550 Euros per hectoliter of pure alcohol (Council Directive 92/83, 1992).

Excise on EU energy and electricity resources - The Energy Directive 2003/96 / EC of 1 January 2004 replaces the previous guidelines and expands them, covering taxable products on all fuels, including coal, coke, gas natural and electricity. The system sets minimum energy usage rates as fuel or as a heating device (Kulis, 2005).

The purpose of the tax is to improve the functioning of the domestic market and reduce competition between oil products and other energy sources. In line with the objectives of the Community and the Kyoto Protocol (Kulis, 2005), which supports more efficient use of energy reducing dependency on energy imports and control and limiting greenhouse gas emissions? It is also in the interest of protecting the environment allowed by member states to reduce the negative and have been implemented for businesses, which define the fiscal label for gas oil and kerosene in order to prevent tax evasion and improve the internal functioning of market.

EU member states have the right to regulate the height of their excise minimum rates provided that the upper limit is not set and each country can autonomously set more rates.

The 2003/96 / EC Energy Excise Tax Directive allows members to apply differentiated rates for commercial and non-commercial use of oil, gas and fuel, provided that the gaseous oil rates are

commercially available and not below national tax level, which entered into force on 1 January 2003.

The loss of excise revenues due to the gray economy is smuggling in these goods is the same, a major problem in both the European Union and Kosovo. Preparation for membership will certainly need to be determined by the manner of connection and engagement in an information exchange system between the respective customs administrations.

Harmonization of excise tax in Kosovo in the context of *Acquis communitarian*

The main purpose of harmonizing the legislation with the EU law related to excises is undoubtedly the advancement of the market and the strengthening of the international trade chain; all this supported by the relevant control mechanisms and electronic management systems.

From the acquaintance with the Customs Legislation of the countries of the European Union, and from the analysis of the way of organization and competencies that cover the customs administrations of these countries, we have come to the conclusion that the excise tax management in both import and domestic production (excise internal) is the exclusive competence of the customs administration.

The content of the customs legislation related to excise rates in Kosovo is based on the EU Directive no. 2008/118 on excise duty. This Directive is binding on all Member States and has been applicable to EU countries since 1 January 2011. This legislation is also based on a number of other EU Directives which regulate the specific elements of products of excise, such as:

Directive 92/12 / EEC of 25 February 1992 on general rules for the maintenance, movement and supervision of excise products;

Directive 92/83 / EEC of 19 October 1992 on the harmonization of excise tax structures on alcohol and alcoholic beverages;

Directive 92/84 EEC of 19 October 1992 on the harmonization of excise duty levels on alcohol and alcoholic beverages;

Directive 2003/96 / EC of 27 October 2003 restructuring the Community framework for the taxation of energy and electricity products;

Decision of the Commission dated 22 July 2006 on the provision of fiscal markers of diesel and kerosene, etc;

Regulation of the EC Commission 2008/450, "Modernized Customs Code" (Regulation (EC) No 450/2008 of the European Parliament and of the Council, 2008) etc.

Excise legislation in Kosovo determines the general rules for the production, storage, storage, movement and control of products subject to excise duties, and sets specific rules on excise that applies to the consumption of products such as alcohol and alcoholic beverages, liquids and their products, tobacco and its by-products, so we rightly state that based on the content of the law on excise and excise products the same is in line with the above directives in terms of regulating this area, as a very important domain, in the customs field, especially when it comes to the level of equality, since taxation, in regulation of excise taxation, especially those that are considered as special products of luxury such as tobacco or alcohol, in addition to the material side of the harvest as tax for the state coffers, it also has the social side, that of protecting society, by applying higher market prices for them products, that in some form create distillation to the buyers or users of those goods.

The administration of excise duty by the Customs Service also in production has several advantages such as:

- It is a tested model for its well-functioning in many countries that aspire to be part of the EU.
- Since the Kosovo Customs Administration is one of the most computerized administrations in the Republic of Kosovo, computerization in the field of administration, supervision and collection of excise revenues in domestic production, including various beverages, alcohol and tobacco is the easiest. Customs operates with the Ascidia World Information System, so for the administration and collection of the Excise there is no need to create a new computer system, but in the current system, the control and fertilization system of the Excise is also included in production.

The calculation of excise duties as a specific tax on alcoholic beverages in the concept of calculating the liabilities according to the percentage of alcohol in the final product is without a doubt according to the standards of EU countries.

Conclusions

The purpose of this paper is to analyze and elaborate on the role and manner of operation and application of excise tax in Kosovo from its establishment until now, and its future path, perspective and challenges, and to analyze the harmonization and degree of compliance of Kosovo's excise legislation with that of the EU, and to identify the obstacles and challenges during this very important process in Kosovo's path towards the EU.

Harmonization of customs legislation in general and indirect taxes in particular, including excise and VAT taxes - still remains a challenge not only for Kosovo legislation versus *acquis Communautaires* but it is also a problem within the European community itself. Even in the founding treaties of the EU, we cannot find any special provision that provides for the full harmonization of indirect taxes, respectively excises and VAT, and to some extent leaves it to the member states to set their own rates, depending on the specific circumstances. in which they are found.

While Kosovo is moving towards the process of European integration, and in the near future it will be part of the European family and has already signed the Stabilization and Association Agreement 2015, customs tax revenues for goods and products coming from the European Union Gradually decrease, meanwhile, revenue will be needed in the budget to finance spending / costs and I think the real opportunity to offset this reduction in customs revenue is only by setting excise duty as a separate tax / fee as excise duties are rarely or almost never included in any agreement. is will begin to decrease and will later be eliminated almost completely.

The paper also analyses the fiscal effects achieved in the case of the application of excise tax in Kosovo, expressed through tabular statistics and we can say that the general impression is that the benefits gained from its application are high, above all, emphasizing environmental protection and social health.

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The effects of Entrepreneurial Creativity, Entrepreneurial Innovation, Entrepreneurial Education, Risk-Taking Propensity on Entrepreneurial Intention

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Abstract

The purpose of the study is to investigate the relationships between entrepreneurial creativity, innovation, entrepreneurial education, risk-taking propensity, and entrepreneurial intention, as well as the effects of between entrepreneurial creativity, innovation, entrepreneurial education, and risk-taking propensity on entrepreneurial intention. In the study, a quantitative method was used, by the means of a structured questionnaire. A sample of 100 students was taken. A correlational and a regression analysis were used in the study.

The results demonstrated that a positive correlation exists between entrepreneurial innovation, risk-taking propensity, and entrepreneurial intention, but no significant relationship exists between entrepreneurial intention and entrepreneurial creativity or entrepreneurial education. Also, it can be concluded that entrepreneurial creativity, innovation, entrepreneurial education, and risk-taking propensity impact entrepreneurial intention

Keywords: *Entrepreneurship, Education, Innovation*

Introduction

During the last few years, unemployment of young people in the Balkan countries has remained one of highest in comparison with other segments of the labor market. According to INSTAT (2015), only 21.9% of young people were unemployed and 14.2% of young people were under-

employed. According to EUROSTAT (2020), in July 2020, the youth unemployment rate was 17.0% in the EU and 17.3% in the euro area.

Entrepreneurship is considered a very important topic, because entrepreneurial activities are a vital component of economic growth, innovation and employment (Giacomin, Janssen, & Shinnar, 2011). Also, Shane and Venkataraman (2000) have suggested that entrepreneurship plays an important role in economic development by incubating technological innovations and creating new jobs. According to Shaqiri (2015), entrepreneurship is not only important in terms of the economy, but it also has an important role in developing young people's skills in our changing economic environment.

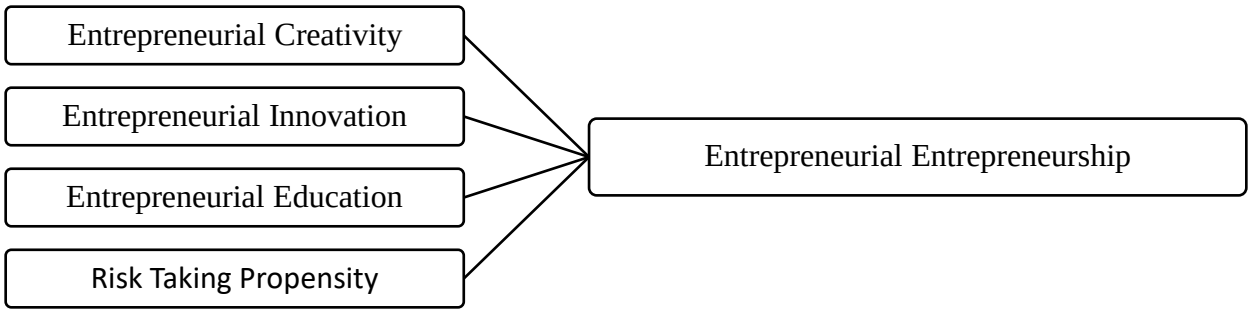
The aim of the study is to investigate the relationships between entrepreneurial creativity, entrepreneurial innovation, entrepreneurial education, risk taking propensity and entrepreneurial intention, as well as the effects of entrepreneurial creativity, entrepreneurial innovation, entrepreneurial education, and risk-taking propensity on entrepreneurial intention.

Research questions include: Are there important statistical relationships between entrepreneurial creativity, entrepreneurial innovation, entrepreneurial education, risk-taking propensity, and entrepreneurial intention? Do entrepreneurial creativity, innovation, entrepreneurial education, and risk-taking propensity impact entrepreneurial intention?

Conceptual Framework

The conceptual framework for this study was created based on existing evidence of the relationships between entrepreneurial creativity, innovation, entrepreneurial education, risk-taking propensity, and entrepreneurial intention. Figure 1 shows the diagram which is used as a conceptual framework for this study.

Figure 1: Conceptual Framework



Literature Review

Shapero (1975) has defined entrepreneurship as a process which consists of initiative taking, organization of resources and acceptance of risk of failure in exploring and exploiting business opportunities. Nicolaides (2011) considers entrepreneurship as the process that nurtures and promotes economic growth, job creation and prosperity through viable businesses. Another definition of entrepreneurship is the process of uncovering and developing an opportunity to create value through innovation and the seizing of that opportunity without regards to either the resources or position of the entrepreneur in a new or existing company (Antoncic & Hisrich, 2001).

Entrepreneurial intention can be defined as the commitment to start a new business (Krueger, 1993). According to Ajzen's Theory of Planned Behavior (1991), intention is the immediate antecedent of behavior. Also, evidence based on 297 business founders revealed that intentions to be self-employed did determine later entry into self-employment (Kolvereid & Isaksen, 2006).

Entrepreneurial creativity is defined as the development and execution of unique, distinctive and apt ideas to launch a new venture (Amabile, 1997). Zampetakis and Moustakis (2006) have defined creativity as the ability to rapidly recognize the association between problems and their purported solutions by identifying non-obvious associations or by shaping or reforming available resources in a non-obvious way. Entrepreneurs' creativity is considered a critical influence on creative business performance (Chaston & Sadler-Smith, 2011).

There is evidence that shows that creativity is positively related to entrepreneurial intention (Zampetakis & Moustakis, 2006). Furthermore, another study has shown that perceived creativity disposition has a positive influence on entrepreneurial intention (Nasiru, Awais Bhatti, & Yeng Keat, 2015). Also, Mylonas, Kyrgidou and Petridou (2017) have concluded that creativity is a

predictor of entrepreneurial intention for female entrepreneurs. Based on above literature review, it is hypothesized that entrepreneurial creativity has a strong positive relationship with entrepreneurial intention.

H1: Entrepreneurial creativity has a strong positive relationship with entrepreneurial intention.

According to Fayolle, Gailly, and Lassas-Clerc (2006), entrepreneurship education consists of any pedagogical program or process of education for entrepreneurial attitudes and skills. There is evidence that shows that entrepreneurship education is a predictor of university students' entrepreneurial intention (Zhang, Duysters, & Cloodt, 2014).

Another research by Nowiński, Haddoud, Lančarič, Egerová and Czeglédi (2017), suggests that entrepreneurship education is playing a big role in the development of entrepreneurial intentions. Also, a recent study by Frunzaru and Cismaru (2018) on generation Z's intention towards entrepreneurship, has shown that entrepreneurial education has a significant impact on students' intention to develop their own business. Based on above literature review, it is hypothesized that entrepreneurial education has a strong positive relationship with entrepreneurial intention.

H2: Entrepreneurial education has a strong positive relationship with entrepreneurial intention.

Innovation is considered one of the four concepts that has been used to measure the Entrepreneurial Attitude Orientation (Robinson, Huefner, Stimpson, & Hunt, 1991). According to Rogers (2010), innovativeness relates to adopting a new product or service earlier than others. Koh (1996) proposed innovativeness as one of the key entrepreneurial preconditions. Also, Kirton (2003) defined innovativeness as the essential characteristic one to become an entrepreneur.

According to Nasip, Amirul, Sondoh and Tanakinjal (2017), entrepreneurs usually need a preference for innovation to explore new venture opportunities. Bell (2019) stated that preference for innovation was one of the strongest predictors of students' entrepreneurial intention. Gozukara and Çolakoğlu (2016) found out that innovativeness had a strong positive effect on entrepreneurial intention. Also, Ashourizadeh, Schøtt and Hassannezhad (2014) discovered that people who may want to start a new venture, have high degree of confidence in innovation than people who do not. Wurthmann's (2014) research on business students' attitudes toward innovation also concluded that there were significant differences in attitudes toward innovation held by those with versus

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those without entrepreneurial intentions. Based on above literature review, it is hypothesized that entrepreneurial innovation has a strong positive relationship with entrepreneurial intention.

H3: Entrepreneurial innovation has a strong positive relationship with entrepreneurial intention.

Risk-taking has been defined as one of the most important characteristics of the entrepreneur and entrepreneurship (Block, Sandner, & Spiegel, 2015). Risk taking propensity can be defined as handling risk and uncertainty and being ready to bear them (Karabulut, 2016). According to Matthews and Scott (1995), risk tolerance is required for entrepreneurial thinking and being an entrepreneur.

The intention to be self-employed is considered stronger for those with more positive attitudes to risk and to independence (Douglas & Shepherd, 2002). A study by Martínez, Herrero-Crespo and Fernandez-Laviada (2015), demonstrated that risk dimensions associated with the creation of one's own business have a negative influence on the desirability and the feasibility of entrepreneurial activities. There is evidence from a research conducted on students' entrepreneurial intention, which shows that being a risk lover has positive, moderate effect on entrepreneurial intentions (Yurtkoru, Acar, & Teraman, 2014). Based on above literature review, it is hypothesized that risk taking propensity has a strong positive relationship with entrepreneurial intention.

H4: Risk taking propensity has a strong positive relationship with entrepreneurial intention.

H5: Entrepreneurial creativity, entrepreneurial education, entrepreneurial innovation and risk-taking propensity affect entrepreneurial intention.

Methodology

Quantitative research method was used in this study. Questionnaires were used to obtain responses from respondents to examine the factors that influence employees work engagement. Primary data was gathered through an online questionnaire to target respondents. Correlational and regression analysis were used in the study in order to analyze the data.

The target population consisted of university students in Albania, who are either on their Bachelor or Master programs. The sample consisted of 100 students (51% male; 57% Bachelor). Participants received no compensation for their participation.

The questionnaire included several questions which were separated in different sections that explain: Entrepreneurial Creativity (Puhakka, 2006); Entrepreneurial Education (Liñán, Rodríguez-Cohard, & Rueda-Cantuche, 2011); Entrepreneurial Innovation (Mueller & Thomas, 2000); Risk Taking Propensity (Liñán, 2008); and Entrepreneurial Intention (Liñán, Rodríguez-Cohard, & Rueda-Cantuche, 2011), measured by the means of Likert Scale.

Results and Discussions

A correlation matrix is presented in Table 1. As can be seen in Table 1, entrepreneurial innovation (α=.855), and risk-taking propensity (α=.811) are strongly correlated with entrepreneurial intention (α=.875). We can see that risk-taking propensity has the strongest correlation with entrepreneurial intention, with a value of .702 ($p<0.01$). It is concluded that H3 and H4 are supported. Even though we can see that there exists a positive relationship between entrepreneurial creativity (α=.706) and entrepreneurial intention, that relationship is not significant, therefore we can conclude that H1 is not supported. Also, we can see that there exists a negative relationship between entrepreneurial education (α=.719) and entrepreneurial intention, but its relationship is also not significant to be considered. Therefore, H2 is not supported. This was not in line with the results of previous studies of the field.

Furthermore, we can see that there exists a significant negative relationship between entrepreneurial education and entrepreneurial creativity (.270) ($p<0.01$). This is a very interesting result and could be investigated further in other studies in the field.

Table 1: Correlations

Nr	Variable	**Correlations**				
		1	2	3	4	5
1	Entrepreneurial Creativity	-				
2	Entrepreneurial Innovation	.797**	-			

3	Entrepreneurial Education	-.270**	.016	-		
4	Risk Taking Propensity	.194	.605**	-.073	-	
5	Entrepreneurial Intention	.103	.506**	-.183	.702**	-

**. Correlation is significant at the 0.01 level (2-tailed).

Also, a regression analysis was used in the study. The model summary is presented in Table 2. In the model, entrepreneurial intention is the depended variable, predicted entrepreneurial creativity, entrepreneurial education, entrepreneurial innovation, and risk-taking propensity. As shown in Table 2, the total variance of work engagement explained by entrepreneurial creativity, entrepreneurial education, entrepreneurial innovation, and risk-taking propensity is 73.4%. These results show that entrepreneurial creativity, entrepreneurial education, entrepreneurial innovation, and risk-taking propensity influence entrepreneurial intention of the students in Albania.

Table 2: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.857[a]	.734	.723	.50283

Furthermore, an Anova analysis was used and it is shown on Table 3. The F-value is 65.569 and the corresponding significance level is 0.000. The author concludes that the regression equation has predictive power. In conclusion, hypothesis 5 is supported.

Table 3: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	66.315	4	16.579	65.569	.000[b]
	Residual	24.020	95	.253		

The results of the study are in line with the results of other previous studies in this field, which also indicate the effect that entrepreneurial creativity, entrepreneurial innovation, entrepreneurial education, and risk-taking propensity have on entrepreneurial intention. In conclusion, hypothesis 5 is supported.

Conclusions and implications

The aim of the study is to investigate the relationships between entrepreneurial creativity, innovation, entrepreneurial education, risk taking propensity and entrepreneurial intention, as well as the effects of entrepreneurial creativity, entrepreneurial innovation, entrepreneurial education, and risk-taking propensity on entrepreneurial intention. The authors assumed that entrepreneurial creativity, entrepreneurial innovation, entrepreneurial education, and risk-taking propensity would have a strong positive relationship with entrepreneurial intention and would also affect it.

The results showed that entrepreneurial innovation and risk-taking propensity have a strong positive relationship with entrepreneurial intention, as concluded by the previous researches in the field. On the other hand, the results showed that entrepreneurial creativity has a positive relationship with entrepreneurial intention, but not significant enough to be considered. Furthermore, entrepreneurial education has a negative relationship with entrepreneurial intention, but also not significant enough to be considered.

An interesting result was the strong negative relationship between entrepreneurial creativity and entrepreneurial education. This result might be an important topic to be investigated further in future researches. It is believed that the lack of development of entrepreneurial curricula in the Universities in Albania might be a factor that contributes to that result.

Furthermore, the results that showed entrepreneurial creativity, entrepreneurial innovation, entrepreneurial education, and risk-taking propensity affect entrepreneurial intention of the students in Albania. According to the regression analysis, the total variance of entrepreneurial intention explained entrepreneurial creativity, entrepreneurial innovation, entrepreneurial education, and risk-taking propensity is 73.4%.

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Problems of economic performance during the Covid- 19 Pandemic in Albania

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Abstract

In this paper the authors, have tried to make a simple presentation of the economic progress of Albania during the period of the pandemics. In this paper, the authors have considered some of the main macroeconomic indicators, tried to analyze their progress and impact during the period based on official data published by the institutions of our country. It was concluded that the fragile matter of the Albanian economy has been critically impacted, especially the Albanian families, where a good part of them have faced significant difficulties due to the massive loss of jobs. The authors have provided some possible recommendations which might be taken in consideration by public sector institutions and private companies to alleviate the situation created by the pandemics.

Key words: *Unemployment Rate, GDP, Foreign Direct Investment, SME, Inflation, Government Spending*

General description of the Global Economy During the COVID-19.

According to World Bank, Covid-19 pandemic risks the dramatic increase of the poverty. As many as 90% of the 183 economies are expected to suffer from falling levels of GDP in 2020.

The 2020 World Bank's expectations for global GDP, are pessimistic. In the report published approximately two months ago, the WB expected that the global GDP would shrink by 5.2% this year. This is in an economic downturn twice as deep as the recession caused by the 2008 financial crisis. Considering the reports published by the ILO, for COVID-19 and the business world it was portrayed that the economic consequences of the pandemics are the most severe ones seen since World War II. The report stated that 2.7 billion employees were affected by restrictions implemented against Covid -19 and globally, it was predicted that in 2020 might have been an increase in the number of global unemployment by 25 million.

General explanation of the Albania Economy During COVID-19.

The Covid-19 pandemic has delivered a severe blow to the Albanian economy, both at the macroeconomic and microeconomic levels, severely affecting private economic entities and family businesses.

According to INSTAT data, the Albanian economy contracted by 2.5% in the first quarter of 2020.

This situation reflected the contraction of investments, the reduction of exports of goods and services, as well as the slowdown of private consumption.

In microeconomic terms, the decline in aggregate demand and sales has brought financial difficulties to many Albanian businesses and households, because of the shrinking incomes and job losses. These difficulties, as well as the uncertainty perceived by various economic operators, make the latter to be more stepped in the implementation of investments that they had planned.

Regarding the labor market in Albania during the first half of 2020, the situation was problematic. According to the data of the Institute of Statistics during this period over 50 thousand people have lost their jobs. In the second quarter of 2020, the official unemployment rate in Albania was 11.9%.

In annual terms, the official unemployment rate increased by 0.4 percentage. Compared to the previous quarter, the official unemployment rate increased by 0.5 percentage points. The official unemployment rate for men is 12.0% and for women 11.9%.

Table: Unemployed 15 years old and over in Albania.

	Q.4. 2018	**Q.1. 2019**	**Q.2. 2019**	**Q.4. 2019**	**Q1.2020**	**Q2.2020**
Unemployed 15 years old and over	172,792	171,001	164,704	160,030	162,041	166,127
15-64 years	172,465	170,590	164,423	159,174	161,426	166,026
15-29 years	81,327	79,747	75,478	75,203	70,638	71,538
30-64 years	91,138	90,843	88,946	83,971	90,788	94,489

Source of information: INSTAT Albanian 2020.

The official youth unemployment rate was 21.4%. In annual terms, the youth unemployment rate showed an increasing trend. Compared to the second quarter of 2019, the youth unemployment rate in the second quarter of 2020 was 0.5 percentage points higher. Compared to the first quarter of 2020, the youth unemployment rate increased by 1.4%. The unemployment rate for the 30-64 age group is 9.5%. In annual terms, this indicator has increased by 0.7 %. Compared to the previous quarter for this age group the unemployment rate increased by 0.4 %.

Employment rate for the population in Albania

During the second quarter of 2020, the employment rate for the population aged 15-64 was 59.6%.

The annual employment rate for the population aged 15 and over, from the second quarter of 2019 to the second quarter of 2020, was -3.6%. In annual terms, the employment rate decreased by 3.7% in the agricultural sector, by 3.7% in the industry sector and by 3.4% in the services sector. Compared to the previous quarter, in the second quarter of 2020, employment for the population aged 15 and over decreased by 2.6%.

Table: Employed by administrative source and agriculture sector.

Employed by administrative source and agriculture sector, **2017-Q.2.2020**								
Description	IV - 17	IV - 18	I - 19	II - 19	III - 19	IV - 19	I - 20	II - 20
Employed in public sector	164,480	172,870	171,539	171,465	173,588	174,388	174,227	173,022
Employed in non-agriculture private sector	501,341	508,728	502,502	509,998	525,563	515,969	508,553	486,259
Employed in agriculture private sector	456,814	453,384	453,279	463,247	463,325	463,660	450,852	446,017

Source of information: INSTAT Albanian 2020.

The number of employees in the public sector during the second quarter of 2020 was approximately 173022 individuals, while this indicator during the second quarter of 2019 was nearly 171,465 individuals.

The number of employees in the private non-agricultural sector during the second quarter of 2020 was 486,259 individuals, while this indicator during the second quarter of 2019 was in the value of 509,998 individuals.

It is noted that the number of employees in the private non-agricultural sector during the second quarter of 2020 decreased compared to the first quarter of 2020 with 22,294 employees less.

The number of employees in the agricultural sector during the second quarter of 2020 was in the value of 446,017 individuals, while this indicator during the second quarter of 2019 was in the value of 463,247 individuals.

During the first six months of 2020, the number of employees in the private agricultural sector has decreased by 17,308 people.

Table: GDP, influenced by the situation created by COVID-19.

NACE Rev.2		**Real estate activities**	**Professional, scientific, and technical activities; administrative and support service activities**	**Public administration and defense; compulsory social security; education; human health and social work activities**	**Arts, entertainment and recreation, repair of household goods and other services**	**Gross value added**	**Taxes on products**	**Gross domestic product**
		7	8	9	10	11=1+..+10	12	13=11+12
2018*		-0.06	6.62	1.56	4.88	4.11	3.81	4.07
2019**		5.98	5.47	3.93	-14.66	2.15	2.88	2.24
2018*	T1	-1.28	9.98	2.90	8.48	4.32	3.35	4.21
	T2	-0.34	10.30	1.57	10.37	4.46	3.54	4.35
	T3	1.19	6.31	0.93	5.05	4.77	3.68	4.64
	T4	0.17	1.45	0.95	-1.83	2.93	4.70	3.12

2019*	T1	8.49	6.55	3.44	-13.96	2.52	1.38	2.37
	T2	6.61	3.91	4.16	-15.55	2.22	4.93	2.56
	T3	3.47	14.11	6.43	-19.43	4.18	4.12	4.17
	T4	5.47	-1.80	1.96	-10.45	-0.23	0.78	-0.10
2020*	T1	2.96	-8.18	0.94	4.10	-2.43	-1.18	-2.27
	T2	5.46	-19.45	-5.60	-19.56	-9.63	-14.26	-10.23

Source of information: INSTAT Albanian 2020.

GDP, influenced by the situation created by COVID-19.

Gross Domestic Product (GDP), influenced by the situation created by COVID-19, in the second quarter of 2020 is estimated to decrease by 10.23%, compared to the second quarter of 2019.

Professional Activities and Administrative Services with -1.23%, Construction with -0.90%, Public Administration, Education and Health by -0.60%, Financial and Security Activities by -0.43%,

Based on the calculation of GDP according to the expenditure method. Final consumption of the population decreased by 7.06% compared to the first quarter of 2020. Finally, government consumption increased by 0.28%. The Gross Fixed Capital Formation component increased by 3.83%. Exports of goods and services decreased by 49.12% while imports of goods and services.

Conclusion and Recommendations

1) It is necessary for the government for its fiscal policies to encourage those sectors that can increase productivity in such a way that the number of unemployed is reduced.

2) Business fiscal aid packages granted by the government during this pandemic period were a significant aid to businesses but still incomplete. The loan guaranteed by the government to help and stimulate the economic activity of the country did not have the proper effect for the country during this period.
3) The Bank of Albania has increased the monetary stimulus, by lowering the key interest rate and increasing liquidity injections, aiming to reduce financing costs and increase the monetary mass in the economy.
4) Credit to the private sector continued to grow in the second quarter, peaking at 7% in June and supporting Albanian businesses and households with the liquidity needed to cope with the crisis. Also, this sector has borne a part of the financial cost of the shock, further easing the burden on the private sector.
5) Based on the European Union's recovery plan, presented on 27th of May 2020, aimed to address the harm caused by the pandemic and invest in a greener, digital, social, and more resilient EU. Albania may take some of these recommendations and implement them to reduce the effects of the pandemic.
6) The Albanian government should review its fiscal policies by facilitating manufacturing business.
7) The government should focus on policies that promote employment growth.
8) The authors suggest that: there should be special stimulus packages to increase exports as one of the sectors with the largest decline during this period with a value of 49.12%.

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Boosting Economic Development in Balkans

Do trade, foreign investment and financial development provide the required panacea?

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Abstract

The Balkan region is known for its favorable geographical location and natural resources. Despite these advantageous factors, the majority of countries in Balkans are failing in reaping the benefits and generating sustainable growth. Faced with the lack of mature, fully-functionable stock markets, these countries have to rely on other sources to boost economic development. International trade and FDIs can serve as the engine of growth if supported with sound financial markets. To examine this possibility, secondary data are collected and employed in a panel regression analysis. Data is obtained mainly from the World Bank and is of annual frequency. The econometric model uses GDP growth as a dependent variable and proxies such as FDI, real interest rate, trade, domestic credit, political stability index and other control variables as regressors. A random sample of Balkan countries is used in the analysis which builds on observations obtained over the last decade (2008-2018). Results suggest that political stability and gross fixed capital formation support economic development. Yet, the impact of international trade although it is often emphasized, appears to be statistically insignificant. This research is useful to academicians, researchers and particularly to policy makers in their decision-making process.

***Keywords**: Economic Growth, Determinants, Financial System, Balkan, Regression.*

Introduction

Balkan region is known for its favourable geographical location and natural resources which are crucial for the European connectivity. Despite these advantageous factors, most countries in Balkans are failing in reaping the benefits and generating sustainable economic growth.

As separate entities, Balkan countries are faced with the lack of mature, fully-functionable stock markets and there exist also political tensions in terms of the way these countries interact with each other. While the diplomatic agendas continue, action is needed to succeed as separate economic units and thereafter as a single stake.

With all the dynamics and the individual powerlessness, these countries must rely on other sources to boost economic development. International trade and FDIs are considered alternative engines for growth if supported with sound financial markets. Although this demands a highly cooperative attitude to be maintained by the countries, which can be challenging, it is recognized as an important opportunity towards prosperity, given the limited market size and financial capacities these countries alone have.

This paper aims to examine the impact of internal and external factors, particularly: trade, foreign investments and financial development on the economic growth of randomly selected Balkan countries. The objective is to carry out a deliberate analysis of determinants that can support sustainable growth and use the final conclusions to provide up-to-date recommendations to governing authorities and other concerned parties. As such, by using secondary data obtained over the last decade (2008-2018) the singular significance of each factor is tested to understand whether the promoted solutions are the adequate ones or not. In testing the relevance of each factor, we employed a panel regression analysis carried out via E-Views 10. The dependent variable is the economic growth (as captured by the growth rate of real GDP) and the independent variables come from the demographic, macroeconomic, political and financial sphere.

The rest of the paper is organized as follows: a review of the literature is presented and discussed in the next section, then the methodology is explained, and empirical results are shown. At the end, we present the final conclusions and some recommendations.

Literature Review

The determining factors of economic growth have always been a topic of interest to researchers. Questioning where to focus and where to put more effort is a question which continues even today. Nevertheless, different economies showcase different results and economic growth is determined by different factors depending on space and timing (Vojtovich, 2013).

Economic growth itself is measured by analysing the GDP growth, mainly focusing on real GDP growth. Referring to the well-known GDP function, GDP is composed of expenditures on personal

consumption (C), Investments of private businesses (I), government spending (G), balance of exports (X) and imports (M) (Mankiw, 2020) also represented as: GDP = C+I+G+ (X-M).

Moreover, the Grey Cobb Douglas function showcases the GDP as a derivate of labour and capital (Onalan & Basegmez, 2018), emphasizing how these inputs of a country, directly impact its output. Although, this theory was tested last century, it is prominent also for today. What has changed, especially due to technological advances and digital transformation, is the manner how inputs have evolved, since it influences the productivity. Thus, GDP growth is foreseen as the most eligible variable to analyse the economic growth of a country.

Nevertheless, it is not equally easy to define which factors have an impact on economic growth. Considering this may change according to economic priorities and followed policies of each country it is difficult to generalize. Yet, following the development patterns of economic growth in different countries, there are some variables which are accepted to have an impact, let this be positive or negative depending on the region and other timely dynamics. The chosen region in this paper is the Balkan region. Although, the Balkan region comprises countries which appear to be similar in terms of economic protagonism and magnitude of trade volumes, they differ. This creates a research gap which is why this topic was chosen.

Throughout years, several studies have been conducted attempting to identify the most suitable determinants of growth. According to Brock & Durlauf (2001), growth theories may be different, yet they are compatible with each other (Boldeanu & Constantinescu, 2015), or in other words, same determinants can be seen as different ones (i.e impact of geographical location and impact of trade volume appear as different but, are very interrelated). Some authors divide them into determinants of economic growth in developing and developed countries (Themba & Nicholas, 2016).

Two variables tested frequently are government expenditures and exports, both found to have a positive, significant impact on economic growth (Alkhathlan, 2013). Aligned with theoretical principles, a country with a government that invests on public goods and services, with a sufficient capacity to export, is much more prone to have a higher economic well-being and growth.

Nevertheless, there is an overall butterfly effect within the economic development and growth of countries which makes it important to assess the impact of trade so, the cooperation of countries and its impact on the individual growth per each country. Trade balance, trade volume and also trade openness are assessed as impacting factors on economic growth. According to Barro (2003)

and Chang and Mendy (2012) these factors have a positive, significant impact on the economic growth of a country. In addition, trade openness and imposing fewer protective measures is found to have a better impact on the economic performance, especially in the case of less industrialized countries (Bhaskara-Rao and Hassan 2011; Checherita Westphal and Rother 2012).

Demographics is also perceived to play a role in the overall wellbeing of a country which is why, aspects such as population growth, urban to rural population ratio have also been tested on the impact they exert on economic growth. The results reveal that population growth has a negative impact on economic growth especially in big countries (Anyanwu 2014). Differently, urban population is found to have a significant positive impact, although there is an overall increase of the urban to rural population ratio in the world (Singh, 2010). This is also found to be related to the evolution of sources of economic wealth and technological improvements which have increased producible wealth in urban areas with higher access to technology.

Addressing wealth and financial growth, an important factor, which cannot be skipped is the investment share or investment rate which, is expected to multiply money. According to studies made in different years and in both countries considered developing or developed, a significantly positive relationship is found between investment rate and economic growth (Bleaney, Gemmell, and Kneller, 2001); (Freire-Seren, 2002); (Anaman, 2004); (Bayraktar, 2006); (Anyanwu, 2014).

Consumption share has also been tested and is found to have a positive correlation with economic growth especially is countries considered to be small economies (Spasojević, Boris & Đukić, Aleksandar. (2018). For an increased efficiency, these countries are also advised to lower the cost of public goods and services.

In the case of the Balkan countries, immigration has also been a matter which is why findings on the role of remittances in economic growth were observed. The results show remittances have a negative relationship with the economic growth in the short term (Alkhathlan, 2013) mainly due to the workforce outflow.

In addition, the role of foreign aid and FDIs (Foreign Direct Investment), were inspected since there is an overall perception, of how crucial they are for these countries to outperform. In fact, FDI usually is found to have a positive impact on economic growth (Borensztein et. al., 1998) (Bhaskara-Rao & Hassan 2011); (Bayraktar, 2006) whereas foreign aid reveals controversial results. In a study of Most and Vann de Berg (1996) foreign aid has a negative impact on economic growth whereas in a more recent study of Chang and Mendy (2012), its impact is positive.

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Generally, aid constitutes a positive stimulus for as long as the economy of the country is not fully dependable on this aid.

As a matter of fact, attention is more given to the internal rule of Law or political stability, which has a positive impact on economic growth (Barro, 2003). According to Anyanwu (2014) it plays an important role in the investment share and trade volume of a country since it is a primary credibility indicator.

An overview of the human impact was also checked. As a result of the review, human capital is found to positively impact economic growth (Fischer, 1992); (Knight, Loayza, & Villanueva 1993); (Freire-Seren 2002). Oddly, labour force participation (economically active proportion of the population) shows a negative impact on economic growth in the short run (Shahid, 2014).

Lastly, impact of financial development indicators such as gross fixed capital formation, credit provided by financial sector, broad money and bank capital to asset ratio was examined.

All financial development indicators show a positive significant impact on economic growth in the long run. Generally, it can be accepted that when the financial system entities, perform adequately, they tend to promote economic growth. If a lower cost of transaction is also achieved, economic opportunities expand (Levine, 1997), and the efficiency of economic inputs is highly increased (Puatwoe, J.T., Piabuo, S.M, 2017).

Thus, the improvement of the financial and especially banking sector is important in countries like the Balkan countries, where the financial institutions are almost infantile and do not perform highly complex operations.

If to differentiate drivers of economic growth in developing and developed countries, (Chirwa & Odhiambo, 2016) it is seen that developing countries are more vocally impacted by trade, foreign aid and FDIs which shows an external stimuli and aid is needed for these less powerful countries to outperform. Yet, it is important to point out that sometimes is recognized that external sources cannot yield the desired results unless complemented by adequate infrastructure, institutions, human and fixed capital (Fetahi-Vehapi et al., 2015; Borensztein, De Gregorio & Lee, 1998)

Differently, developed countries rely more on the internal physical and human capital, the imposed fiscal policy, monetary policy as well as financial and technological factors. This is an indicator of how independent these countries are compared to developing ones.

Methodology

Data

This paper builds on secondary panel data obtained from World Bank (World Bank, 2020) and The Global Economy (The Global Economy, 2020). In total 66 observations, all of annual frequency, were used to conduct the regression analysis that follows. Data was obtained for a random sample of Balkan countries: Albania, Serbia, Greece, Bosnia and Hercegovina, Croatia and North Macedonia, over an 11-year period (2008-2018).

Regressors' Selection

Based on the reviewed literature and research question the following regressors were selected and employed in the regression analysis: Trade as a percentage of GDP (sum of exports and imports as a percentage of GDP); Real interest rate (lending rate adjusted for inflation); Population growth (measured as a percentage, per annum); Political stability index (-2.5 weak, 2.5 strong); Personal remittances received (measured in current US dollars); Labour force participation (economically active proportion of the population 15-64 years); Gross fixed capital formation (annual % growth); Foreign direct investments (net inflows in current US dollars); Domestic credit provided by financial sector (as a percentage of GDP); Broad money (M3 as a percentage of GDP); Bank capital to asset ratio (reserves and capital out of total financial and nonfinancial assets).

Robustness Checks

Fulfilment of the "Classical Linear Regression Model Assumptions" for Panel Data is the first step of regression analysis. To ensure that the final model is robust, data was checked for: normality in residuals, multicollinearity, homoscedasticity, unit-root behaviour.

To mitigate in full the possibility of spurious regression results, all variables were converted to first differences. The model was estimated using OLS (ordinary least squares) method with HAC (heteroscedasticity, autocorrelation robust) standard errors. In addition, the sample size of 66 observations guarantees the validity of t- and F-statistics. Lastly, none of the regressors seems to be perfectly correlated to the others; correlation coefficient for each pair is below 0.8. As Table 1 and 2 show, variables and the chosen model do not violate any of the assumptions.

Table 1: Test for Stationarity of Variables

Unit Root Test - Philips Perron				
Symbol	Variable	Method	Statistic	Probability
X1	Tradeas%ofGDP	PP - Fisher Chi-square	83.1629	0.0000
X2	RealInterestRate	PP - Fisher Chi-square	54.6847	0.0000
X3	PopulationGrowth	PP - Fisher Chi-square	34.243	0.0006
X4	PoliticalStabilityIndex	PP - Fisher Chi-square	35.0214	0.0005
X5	RemittancesReceived	PP - Fisher Chi-square	28.5894	0.0045
X6	LaborForceParticipation	PP - Fisher Chi-square	35.8666	0.0003
X7	GrossFixedCapitalFormation	PP - Fisher Chi-square	81.3884	0.0000
X8	ForeignDirectInvestments	PP - Fisher Chi-square	73.3126	0.0000
X9	DomesticCreditprovidedbyBanks	PP - Fisher Chi-square	20.9055	0.0500
X10	BroadMoneyas%ofGDP	PP - Fisher Chi-square	16.5022	0.0861
X11	BankCapitaltoAssetRatio	PP - Fisher Chi-square	33.8005	0.0002
Y	GDPGrowth	PP - Fisher Chi-square	105.981	0.0000

Table 2: Correlation Matrix

	X1	X10	X11	X2	X3	X4	X5	X6	X7	X8	X9
X1	1.00										
X10	-0.56	1.00									
X11	0.12	-0.24	1.00								
X2	-0.54	0.37	-0.26	1.00							
X3	0.28	-0.07	-0.51	0.14	1.00						
X4	-0.47	0.66	-0.47	0.42	0.02	1.00					
X5	-0.56	0.31	0.46	-0.07	-0.59	0.14	1.00				
X6	0.20	0.30	-0.21	0.24	0.68	0.28	-0.31				
X7	0.19	-0.07	0.00	-0.24	-0.05	0.01	-0.08	1.00	1.00		
X8	-0.29	0.30	0.19	0.11	0.11	0.23	0.38	0.38	-0.06	1.00	
X9	-0.40	0.58	0.34	0.37	-0.11	0.30	0.57	0.37	-0.21	0.55	1.00

Econometric Model Specification

In specifying a regression model, two different approaches can be relied upon: "General-to-Specific" or "Specific-to-General". This paper tried to consider three potential pillars to regional

economic growth: financial sector development, international trade and foreign investments. To allow for a satisfactory number of relevant regressors to be considered, "General-to-Specific" approach was followed in obtaining the final model.

Fixed Effects Model was used to provide an answer to the research question. The model puts GDP growth in the place of the dependent variable and attempts to explain variations of the former via 11 regressors from the pool of financial (real interest rate, domestic credit, bank capital to asset ratio); trade (trade as a percentage of GDP); capital flow (foreign direct investments – FDI); political (political stability index); demographic and macroeconomic factors (population growth, remittances received, labour force participation, broad money, and gross fixed capital formation). Please refer to Table 3 and 4 below for the preliminary and final estimation output.

Table 3: Estimation Output of the General Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1	0.0145	0.0543	0.2683	0.7904
X10	-0.0144	0.0583	-0.2475	0.8063
X11	-0.3317	0.3188	-1.0404	0.3067
X2	-0.3907	0.1643	-2.3770	0.0243
X3	-2.1113	1.0958	-1.9267	0.0639
X4	0.4787	0.1733	2.7613	0.0099
LOG(X5)	3.3168	2.0128	1.6478	0.1102
X6	0.2481	0.2105	1.1786	0.2481
X7	0.0781	0.0426	1.8315	0.0773
LOG(X8)	-0.2720	0.2531	-1.0748	0.2913
X9	0.0049	0.0804	0.0618	0.9511
Constant	-73.136	55.798	-1.3107	0.2002
R-squared		0.7007	Adjusted R-squared	0.5562
F-statistic		4.8506	Prob(F-statistic)	0.0001

Table 4: Estimation Output of the Final Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.

X11	-0.5186	0.2428	-2.1357	0.0398
X2	-0.4581	0.1481	-3.0930	0.0039
X3	-2.4333	1.0048	-2.4215	0.0208
X4	0.5687	0.1354	4.2002	0.0002
X7	0.0850	0.0362	2.3479	0.0247
Constant	9.3594	2.5694	3.6425	0.0009
R-squared		0.6672	F-statistic	8.7738
Adjusted R-squared		0.5912	Prob(F-statistic)	0.0000

Results and Discussions

Evaluation of the estimation output in Table 3 is done separately for each variable based on t-stat (or P-value). To mitigate the "Irrelevant Variable Bias", statistically insignificant variables are dropped one by one, so in the final model the interpretation is done only for those regressors that appear to provide explanatory power statistics-wise.

In the specific (final) model, five out of 11 regressors seem to be relevant in explaining GDP growth. Bank capital to asset ratio (X11); real interest rate (X2); population growth (X3); Political stability index (X4) and gross fixed capital formation (X7) result to be highly significant at 5%. Overall, the model seems to explain about 67% of the total variation in GDP growth.

Bank capital to asset ratio seems to depress economic growth. For each percentage point increase in the capitalization ratio, GDP growth is predicted to drop by 0.51 percentage points ceteris paribus. The more risk-averse banks become, the less they would lend, thus less money would be available to be spend in fuelling economic growth. Next, it seems that real interest rate is also negatively related to Y. The increase in real interest rates is translated in higher lending rates. As borrowing becomes more expensive, less investors would be willing to undertake business projects which in turn hinders economic expansion and growth. In this case, for each % point increase in real interest rates, GDP growth is predicted to fall by 0.45 %-points ceteris paribus. Thirdly, it seems that population growth puts negative pressure on economic development. Balkan countries are not strong and developed, thus suffering from under-production or/and inefficient use of resources. Under such circumstances, unless the pace of growth of the population and total goods and services produced (i.e. GDP) match, the overall wellbeing of people would decrease (other things equal). Political arena is also a key element of growth in each county. It affects not only the

perceptions of domestic investors, but also confidence that foreigners have on the county and its potential. The more stable the country is with respect to politics, rule of law and system of justice; the more attractive it becomes to businesspeople. In the regression above, it seems that for each unit increase in political stability index, GDP growth tends to improve by 0.56 %-points ceteris paribus. Lastly, it appears that gross fixed capital formation supports economic growth; for each percentage point increase in the former, the latter is predicted to rise by 0.08 percentage points ceteris paribus. The higher the investment in fixed long-term capital, the easier is for countries to achieve the desired levels of growth. All the machineries, factories, equipment, and tools are means to offer more goods and services, so they lay the foundations for effective use of resources and amelioration of the wellbeing of the society as a whole.

Conclusions and Implications

The purpose of this paper is to bring to light the key drivers of growth in the Balkan region. Data is obtained from the World Bank Indicators for a sample of randomly selected countries over the period 2008-2018 and employed in a regression analysis.

The results show that in line with the existing literature on the matter, the real interest rate and population growth do exert a negative impact on economic development. In addition, the importance of political stability is once more reinforced, since even in this study it is found to have a positive impact on economic growth. Lastly, gross fixed capital formation was also shown to have a positive impact on economic growth which is also reliant with other similar studies.

In controversy, this study found no significant impact of remittances, labour force participation rate, FDIs, broad money, trade and domestic credit on the economic growth of Balkan countries. This difference from other studies shows that Balkan countries need to assess the individual problems and reinforce the internal mechanisms. It can be inferred that, there is a need to focus on the elaboration of macroeconomic policies that ensure well-functioning financial markets and industrialization. Given that such countries suffer from non-operating or under-developed stock markets, the importance of the banking sector becomes vital as engine for economic development. In line with this, investment in long-term capital goods can lead to improvement in levels of well-being not only via increase in employment, but also through the indirect increase in goods and services produced and offered. Moreover, in such a fast-moving world, faced with uncertainties

such as the recent global pandemics of Covid-19 which brought several restrictive measures, especially for small countries like the ones in Balkan region, there is a need to work on building a well-functioning, lower cost public goods system, a supportive private sector; implement effective monetary policy and then think on relying on external factors such as support in the form of foreign aid or FDIs (Foreign Direct Investment). All in all, it can be emphasized that these countries need to work towards building a favourable internal climate that provides the basis for growth. Unless the regional challenges with respect to industrialization and financial sector are addressed to the impact of external sources of growth will be limited if not insignificant. This research provides the foundations for more advanced studies in the future and is of key importance to governing authorities for their decision-making process and upcoming reforms.

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Intelligent Farming as a response to Global Climate changes

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Abstract

In this paper we present the current status of the project for applying the techniques of Artificial Intelligence (AI) and Internet of Things (IoT) in agriculture. Contemporary Agriculture is facing numerous challenges due to the global climate changes. These challenges include: continually increasing demand for quality food, shortages of arable land, reduction of irrigation water, labor shortages, soil contamination by heavy metals and/or uncontrolled use of pesticides, permanent loss of yields due to the plant diseases and pests. In such circumstances, to maintain the efficiency of the agricultural industry the sector needs to resort to the latest networking and AI techniques in order to optimize resources and sustainably produce quality and ecologically healthy food. An integration tools based on IoT and Artificial Neural Networks (ANN) technologies will enable the industry to collect, process, transmit data and make autonomous decisions and actions based on incorporated informal knowledge obtained through using Fuzzy logic without need for human interaction. The capabilities offered by IoT including basic communications infrastructure (used to connect smart devices - from sensors, vehicles, Unmanned Aerial Vehicles (UAVs), to user-friendly mobile devices - using the Internet and a range of services, such as local or remote information retrieval, intelligent information analysis, pattern recognition and processes of autonomous decision making based on AI and agriculture automation. There is no doubt that such integrated technology will revolutionize the agricultural industry which is probably one of the most inefficient sectors today.

Key Words: *Artificial Intelligence, Artificial Neural networks, Fuzzy Logic, Internet of Things, Unmanned Aerial Vehicles.*

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Introduction

The World Food Organization (FAO) estimates that the world population will increase by another 2 billion by 2050, while additional land that can be cultivated will be only 4%. In such circumstances, more efficient farming practices can only be achieved by using the latest technological solutions that will optimize the use of resources in this area. The application of AI in agriculture will raise this sector to a qualitatively higher level.

The Internet of Things (IoT) is playing an increasingly important role in research due to the uniqueness of the concept itself. The term IoT refers to uniquely identifiable objects, systems and their corresponding virtual representations on the Internet. One of the arising areas of application of IoT technology is agriculture. There are several reasons for this, but food security is certainly considered to be the most essential sector globally. It is fact that existing ICT conventional techniques have solved some problems but they are not good enough for efficient and guaranteed production. Agricultural production requires many activities such as monitoring of soil and plant conditions, environmental monitoring such as temperature, relative humidity, carbon dioxide content, precipitation, transport, supply chain management, infrastructure management, control systems, monitoring of animals, pest control, etc. IoT based agricultural technology creates added value in terms of quality and increased food production, automates a range of processes and helps in decision making. Using AI and IoT in agriculture can bring many benefits:

- IoT makes easy manageable collecting and control large amounts of data from sensors and integrate them in real-time from anywhere allowing all process participants to connect.
- IoT is considered a as a key component of intelligent agriculture. By using precision sensors and intelligent equipment, farmers can increase food production by 70% by 2050.
- With the use of AI manufacturing costs can be significantly reduced, thereby increasing profitability and sustainability.
- The use of AI and IoT will increase the level of efficiency in the use of water, fertilizers, pesticides, energy sources, etc.
- AI application will lead to environmental protection.

Literature review

Artificial Intelligence and Machine learning encompass different aspects of problems regarding the agriculture. Computer based Control started penetrating in agriculture in mid-eighties onwards. Since then, there have been many suggestions and proposed systems for improvements.

Artificial neural networks

Artificial neural networks have been incorporated in the agriculture sector in last decades due to its advantages over traditional control systems. Artificial neural networks can predict and forecast system behavior trough process of training. (Gliever &Slaughter,2001) used ANN to differentiate weeds from the crops. (Maier&Dandy, 2000) used ANN for forecasting water resources variables. (Song&He,2005) brought together expert systems and Artificial neural networks in predicting cropn nutrition level. (Ravichandran&Koteshwari, 2016) suggested use of ANN algorithms for crop prediction on smartphones. The prediction model had three layers. The efficiency of the model was dependent on the number of the hidden layers. (Shahzadi et al.,2016) developed expert agriculture system. The concept of IoT in this system was to send the data to the server so that actuators of the field should be able to take appropriate decisions. (Arif et al.,2012) developed two ANN models to estimate soil moisture in Paddy fields using decidedly less meteorological data. Both these models were then validated by studying observed and estimated soil moisture values. They resulted in the accurate and reliable estimation of soil moisture in the paddy fields by using the least meteorological data, less labor and time consumption. (Hinnell et al.,2010) discuss the neuro drip irrigation systems where ANNs were developed to predict the spatial water distribution in the subsurface. For drip irrigation method to properly function, water distribution in the lower level of the soil is of the grave importance.

Fuzzy logic-based systems

Fuzzy logic is efficient way for representation of informal knowledge through function of degree of affiliation for each system variable. All input variables are fuzzified. Fuzzy Inference engine calculate fuzzy output as a response of set of IF – THEN fuzzy rules. Calculated Fuzzy output is defuzzified as a crisp control value.

(Sicat et al., 2005) developed an FK-based fuzzy model to decide the land suitability. Various fuzzy sets were generated using different knowledge congruently. The sets used S-membership functions and were used to determine soil texture, slope, and color. Another implementation of fuzzy modeling was done for land leveling by (Si et al. ,2007). They employed fuzzy control theory in the system control. By implementing fuzzy control theory, a precision based result was obtained. (Sannakki et al.,2011) developed an innovative system for grading the leaf diseases. Color image segmentation where k-means clustering is used to isolate the healthy part of leave with the disease infected part. FIS (Fuzzy inference system) was developed by (Tremblay et al., 2010) to determine optimum rates of N fertilizer on the basis of field and crop features. (Valdés-Vela et al. 2015) implemented FIS to estimate stem water potential. (Gottschalk et al.,2003) developed fuzzy logic based air controllers to maintain the temperature of storage facilities for Potato. (Escobar and Galindo, 2004) came up with a simulation software (SCD) which came in handy for many fuzzy based controllers. The software used rule-based knowledge base with IF. THEN condition type. Another Fuzzy inference system using IF…THEN condition type was developed by (Tilva et al.,2013). The model forecasted plant disease on the base of weather data. The system was developed to avoid diseases in plant beforehand as disease occurs in specific range of temperature and humidity in the weather. (Wall and King,2004) came up with a smart system which controlled valves of sprinklers with the help of temperature and moisture sensors deployed in the field. (Miranda et al.,2003) came up with a distributed irrigation system which works on soil water measurement. M2M (machine-to-machine) technology which allows machines to interact with each other autonomously and store the data directly in a cloud-based server online. This M2M technology is in an incipient stage and is developing steadfastly. (Iliev, Zakeri et al. 2017) developed a multivariable Fuzzy Controller for Greenhouse system. Developed fuzzy inference engine integrate input variables interdependency and incorporate informal knowledge by field experts.

IoT and wireless communications

Use of wireless communication has changed the communication standards and this will also raise the standards of agriculture automation. Many different IEEE standards describe sensor networks, standards like IEEE 802.15.1 PAN/Bluetooth, IEEE 802.15.4 ZigBee and many more are necessary to know while planning its application. There is a current debate about using IPV6

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Internet Protocol for wireless communication and also many hardware system for establishing aWSN. By usingWSN it is possible to achieve precision farming and to create optimal strategies. In parallel, the IoT concept has enabled establishment of intelligent sensors network with capabilities to cover wide areas in real time. (Logatchevl et al.,1998) has bifurcated the IOT gateway into different nodes such as actuator, sensor, interface and wireless link which give assistance to communication between them. (Kodali&Sahu,2016) presented the use of Losant platform for monitoring the agriculture farmland and inform the farmer via SMS or e-mail if any anomaly is observed by the system. Losant is a simple Iot based most powerful cloud platform. It offers real-time observation of data stored in it irrespective of the position of the field. (Gutiérrez et al.,2014) came up with an automated irrigation system which uses the GPRS module as a communication device. The system is programmed into a microprocessor - based gateway which controls the water quantity. It was proved that water savings were 90% more than the conventional irrigation system. (Kim et al.,2008) used a distributed wireless network for sensing and control of irrigation process from a remote location. To improve efficiency, productivity, global market and to reduce human intervention, time and cost there is a need to divert towards new technology named Internet of Things. IoT is the network of devices to transfer the information without human involvement. Hence, to gain high productivity, IoT works in synergy with agriculture to obtain smart farming. (Malavade and Akulwar, 2016) focused on role of IoT in agriculture that leads to smart farming. (Kumar,2014) used fertility and pH meter to take out the percentage of ingredients of the soil and developed wireless sensor based drip irrigation system. (Roopaei et al. 2017) discussed the use of cloud based thermal imaging system which helps the irrigation by incorporating the performance of the equipment's and determine the area of field which requires the water most. The absence of uniformity will hamper the crop growth and thermal imaging can help to consolidate this loss.

Methodology

Using AI and IoTand in modern farming will bring many benefits:

- IoT makes easy manageable collecting and control large amounts of data from sensors and integrate them in real-time from anywhere allowing all process participants to connect.

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- According to experts in the field, IoT is considered a as a key component of intelligent agriculture. By using precision sensors and intelligent equipment, farmers can increase food production by 70% by 2050.
- With the use of IoT, manufacturing costs can be significantly reduced, thereby increasing profitability and sustainability.
- The use of IoT will increase the level of efficiency in the use of water, fertilizers, pesticides, energy sources, etc.
- IoT application will lead to environmental protection

The system structure is shown on Figure 1. The central module is receiving data from autonomous metrological stations, local weather forecasts, expert knowledge from local agronomists, pre-processed images obtained from multispectral crop cameras using unmanned aerial vehicles and data obtained from mobile applications. Based on the collected, preprocessed and stored data, the central module generate control actions towards the actuators. The system is applicable to both outdoor and protected (Greenhouses and Indoor) cultivation. According to the type of the controlled plant, adequate actions are taken. In case of protected cultivation the system control indoor temperature, relative humidity and CO2 enrichment, irrigation and fertilization. In case of outdoor cultivation the system controls irrigation, fertilization and calculate severity index for early disease prediction. As an addition, techniques based on artificial intelligence will be used to optimize resource utilization.

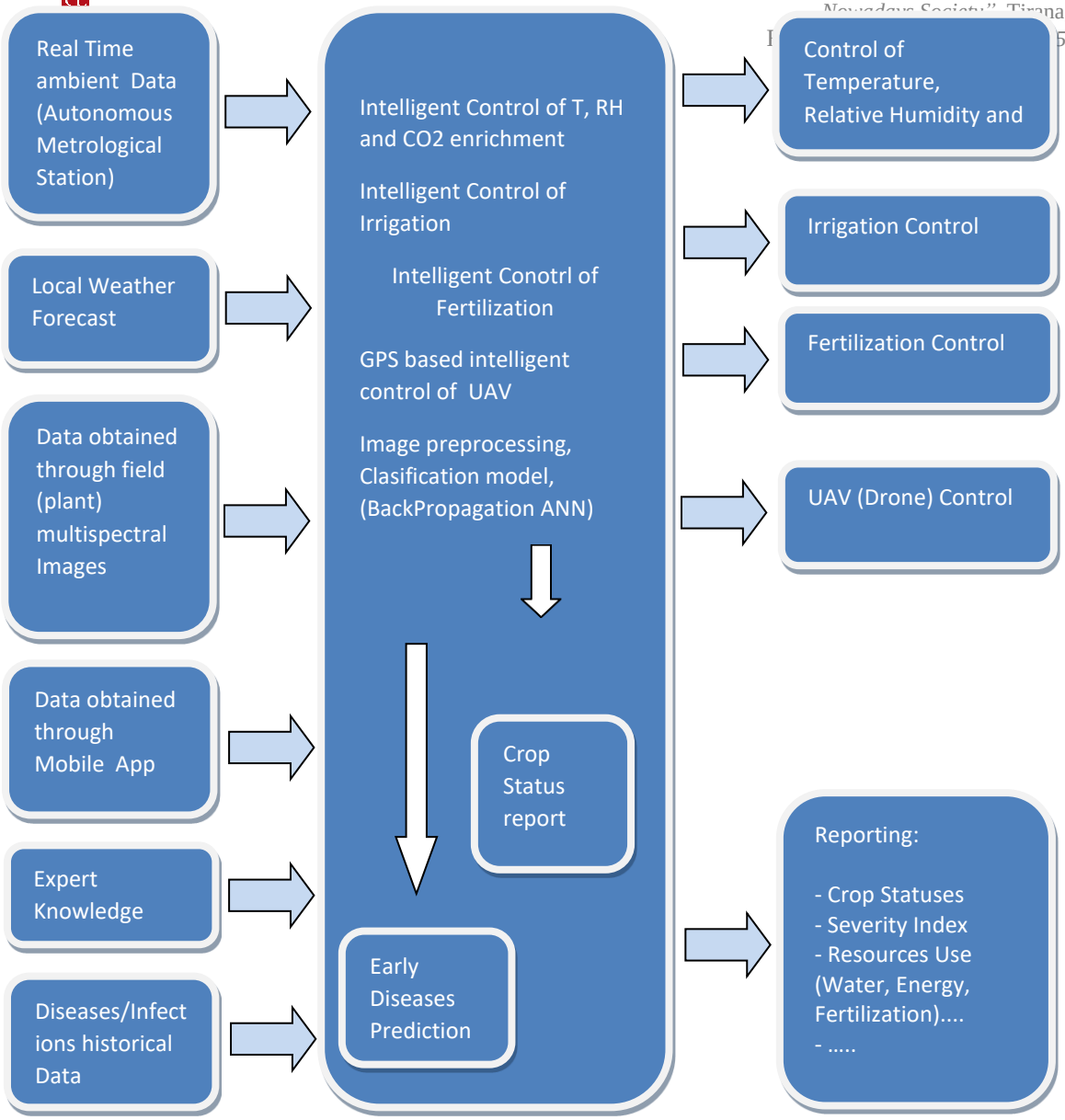

Figure 1. System structure

Results and discussions

Fuzzy logic based Control of protected Cultivation

Managing ambient growth conditions is the first perquisite for effective management of protected cultivation. To avoid the plants abiotic stresses, the temperature and relative humidity of the atmosphere should be within/follow strict limits. It is also necessary to inject additional amounts of CO2, due to space limitation in closed systems.

Increased temperature causes a drop in relative humidity, which disrupts the process of pollination, while a drop in temperature causes increased humidity and potential risk of disease development. Each plant has its specific requirements for optimal ambient conditions. Our research has developed an intelligent system for management of these parameters, based on Adaptive Fuzzy logic management which integrally integrates these three parameters.

Input parameters for the developed system are: Indoor air temperature(IAT) measured in C°, Relative humidity(RH) represented in %, carbon dioxide (CO2) level in a green-house represented in ppm, Plant growth phase measured in days and light intensity.

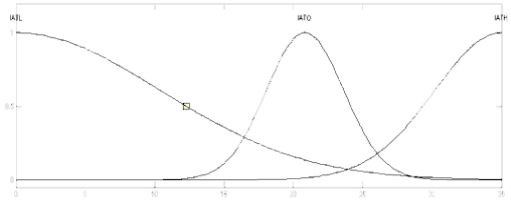

Figure 4.1.1 .Membership function of (T)(ºC)

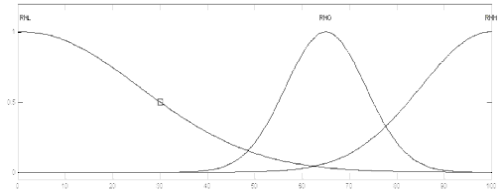

Figure 4.1.2. Membership function of RH (%)

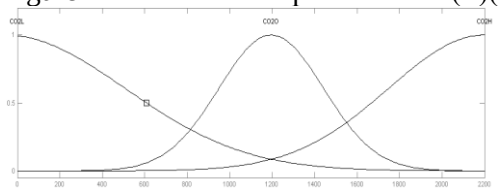

Figure 4.1.3. Membership function of CO2 (ppm)

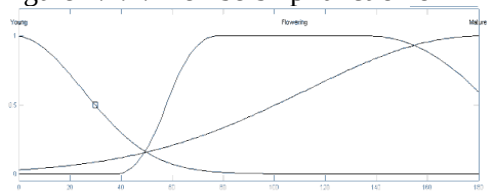

Figure 4.1.4 Membership function of plant growth phase (days)

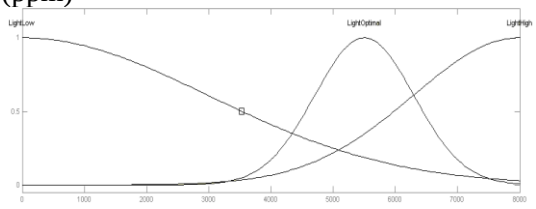

Figure 4.1.5 Membership function of radiation μ(PAR) (Lux)

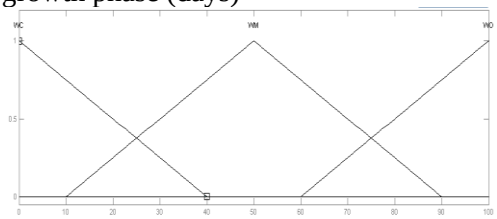

Figure 4.1.6 Membership function of heating, windows status and CO2 injector (%)

System output variables are: a heating system that can be activated in a linear mode from 0-100%, position of the greenhouse roof windows (closed - 0%, fully open - 100%), CO2 dosing system (0-100%).

Based on the input membership functions and the developed set of fuzzy logic (linguistic) variables, the system generates appropriate control functions shown on Fig. 4.1.7 and Fig. 4.1.8

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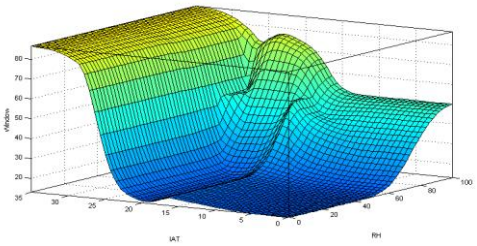


Figure 4.1.7 Ventilation system activity as function of T, RH and CO2

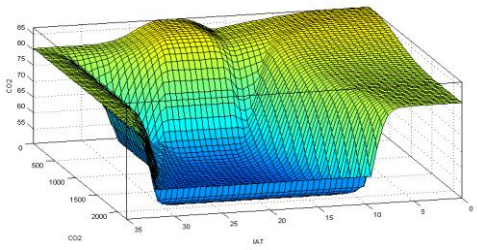


Figure 4.1.8 CO2 injection subsystem activity

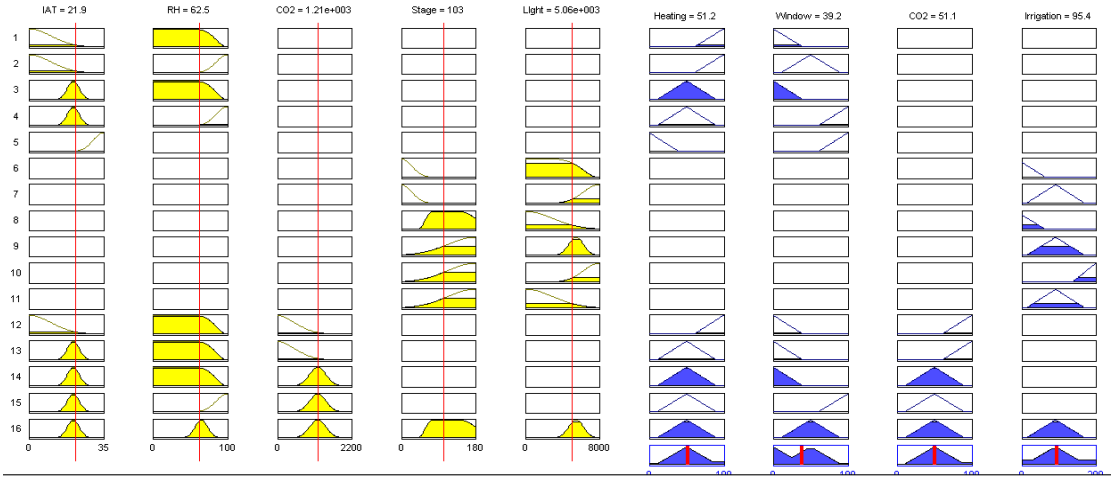


Figure 4.1.9 Defuzzified values for actuator control

Fig. 4.1.9 presents a management strategy based on an adaptive fuzzy-logic model which is based on the measured input variables. In the illustrated case, with the given input temperature of 21,9 C°, RH of 82,5%, CO2 level of 1200ppm, plants with the age of 103 days and light intensity/level of 5.000 lux, the activator values should be set: at 51,2% of the heating system, the ventilation system (the windows) should be positioned at 39,2% of the maximum capacity, and the CO2 system should operate at 51,5% accordingly. Considering the temperature is close to optimal, this is a realistic assumption, but the high RH level should be reduced by opening the ventilation windows. Additionally, the relatively old plants(113 days) will further increase the RH, and the light level of 5000 lux assumes sunny weather.

The system has been tested for control of high pressure aeroponics in protected cultivation of arugula. The results are shown on Figure 4.1.10

Figure 4.1.10 Aeroponic cultivation of Arugula (*Eruca vesicaria ssp. Sativa)* on fabric in controlled environment

Multispectral spatial image data analysis system

Plant light reflectance depends on its type, the water content of the tissues and other factors. Vegetation reflectance in the electromagnetic spectrum is determined by the chemical and morphological characteristics of the leaves' surface,. Multispectral vegetation analysis applications are based on the fet spectral ranges: ultra violet (100 - 380 nm), visible spectrum (450 - 750 nm), near-infrared and mid-infrared spectrum (850 - 1700 nm). The reflectance rate on the leaf surface (equivalent to thermal wavelength absorption) of a fully grown green plant without biotic or abiotic stress varies in the range of 0.96 - 0.99. Opposed to it, the range for plants with abiotic stress caused by water scarcity varies from 0.88 to 0.94.

Vegetation indices based on near- and mid-infrared spectral range provide information on water content, pigments, sugar and carbohydrate content, protein content, aromaticity and number of other data. Reflectance of plants in the thermal infrared spectral range (8-14 μm) allows interpretation of the plant emission as being directly proportional to their temperature. Hence, the indices obtained from this range can be used to estimate the dynamics of leaf cuttings which regulates the transpiration rate of plants. These indices can be used as an indicator of plant water status and abiotic/biotic stress levels. The combination of different soils, weeds and other obstacles make the extraction process of regions of interest very difficult. There are more than 150 different vegetation indexes. The most used are:

Perpendicular Vegetation Index (PVI)

In terms of the index of normal vegetation, the spectral reflectance of soil is represented as a line (soil illumination line) in the coordinate system NIR-R (Near Infra Red-Red). The second effect can be explained because the soil represents high spectral reflectance in the NIR and R ranges/bands.

The distance between the point of reflectivity (R,NIR) and the soil line is defined as a normal VI and can be expressed as follows:

$$PVI = \sqrt{(\rho_{soil} - \rho_{veg})_R^2 - (\rho_{soil} - \rho_{veg})_{NIR}^2}$$

Where

ρ_{soil} - soil reflectance;

ρ_{veg}- vegetation reflectance in the corresponding spectral ranges/bands

PVI, can be also quantitatively expressed as:

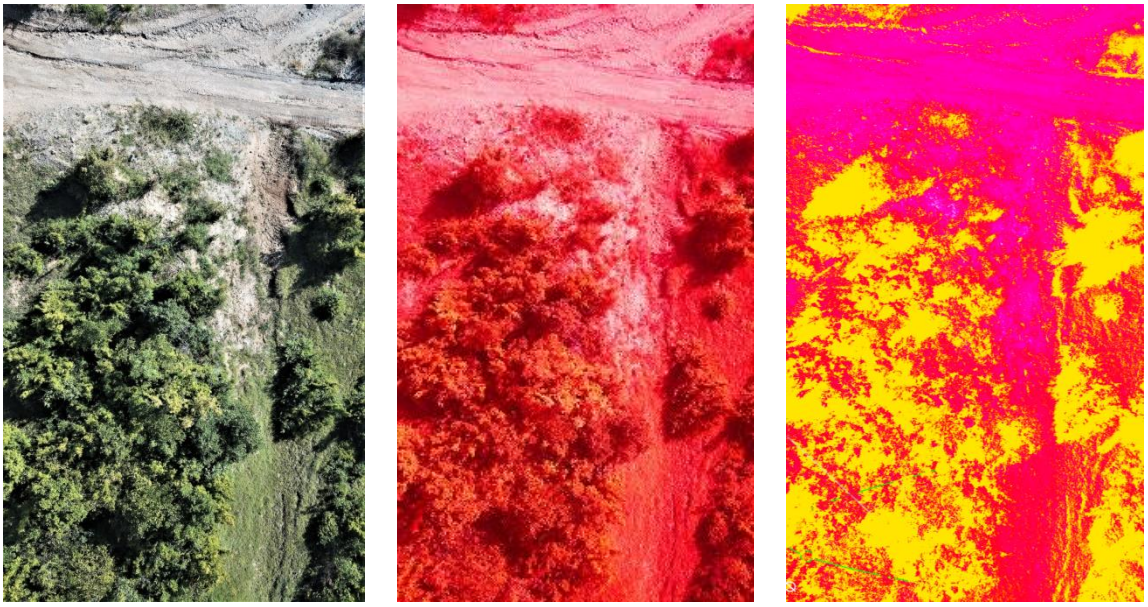
$$PVI = (DN_{NIR} - b)cos\theta - DN_R sin\theta$$

Where in DN_{NIR} and DN_R are the values of the light reflectance from NIR and R ranges/bands respectively; b is the intersection of the soil base and the vertical axis of the NIR reflectivity; θrepresents the angle between the horizontal axis of R reflexivity and the base of the soil.

Normalized Difference Vegetation Index (NDVI)

NDVI is the normalized ratio between R-NIR spectrum. The most basic application of NDVI is to characterize vegetative mass growth and is often compared to the Leaf Area Index (LAF). The differential difference in a given time interval characterizes the growth dynamics. Mathematically it is expressed as:

$$NDVI = \frac{(\rho_{NIR} - \rho_R)}{\rho_{NIR}} - \rho_R$$



(a) RGB image (b) NIR image (c) NDVI index

Figure 4.2.1 RGB, NIR vegetation pictures and NDVI Index.

Figure 4.2.1 represent RGB, NIR and Processed NDVI index. RGB and NIR pictures are taken on location 41.839043N, 22.387435E at Altitude of 595,215 m (Municipality of Zrnovce, Republic of Macedonia) with UAV. Pictures are processed and NDVI index has been shown on the third picture. Further, NDVI index will be used (with pre procession) as a input for trained ANN in order to obtain quantitative data regarding the crop status and possible biotic and abiotic stresses.

Intelligent control of Irrigation

The automatic irrigation system aims to optimize the water use for agricultural crops. The system consists of a distributed network of wireless sensors that measure soil moisture, temperature and relative humidity. The data is transferred to the sensor module at the base station. Besides the data coming from the sensor network, the system uses weather forecast data and user's expert knowledge. Data mining algorithm based on flow rate and number of plants, calculates the amount of water needed in achieving the optimum irrigation quantity The system have a built-in Event driven controller connected/linked to a mobile application which promptly notifies the user of possible catastrophic scenarios(water shortage, interruption/failure of system elements, etc).

Large land coverages have a different soil structure, which makes measuring the humidity of a single site inefficient. A Data Mining algorithm is used for supporting the Drip Irrigation decision

making process. The Drip Irrigation system comes with a built-in wireless sensor network (WSN) based on ZigBee communication protocol and is configured as an ad hoc network - which provides configurational flexibility. The algorithm is based on Jackson's linear regression model

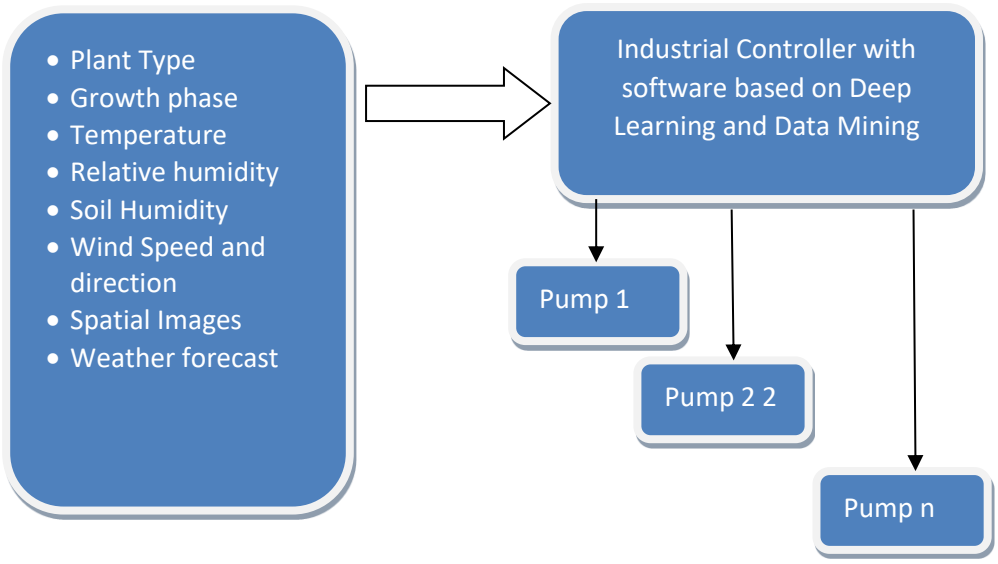


Figure 4.3.1 Structure of the system for intelligent control of Irrigation.

$$D = \frac{r_a(R_n - G)}{\rho C_p} * \frac{\gamma(1 + r_{cp/}r_a)}{\Delta + \gamma(1 + r_{cp/}r_a)} - \frac{VPD}{\Delta + \gamma(1 + r_{cp/}r_a)}$$

Where:

Rn - net PAR (Photosynthetically Active Radiation)

G - soil (water) evaporation/vapour flux density

ρ - atmospheric density

cp - specific temperature at constant pressure

γ - psychometric constant

Δ - slope of saturation vapor pressure in relation to temperature

ra - aerodynamic resistance

rcp - transpiration resistance of the plant

VPD – vapour-pressure deficit

On the figure 4.3.2 is presented prototype of System for measurement of the T, RH, PAR, CO2, Water level and soil humidity parameters. The prototype is based on Arduino due technology.

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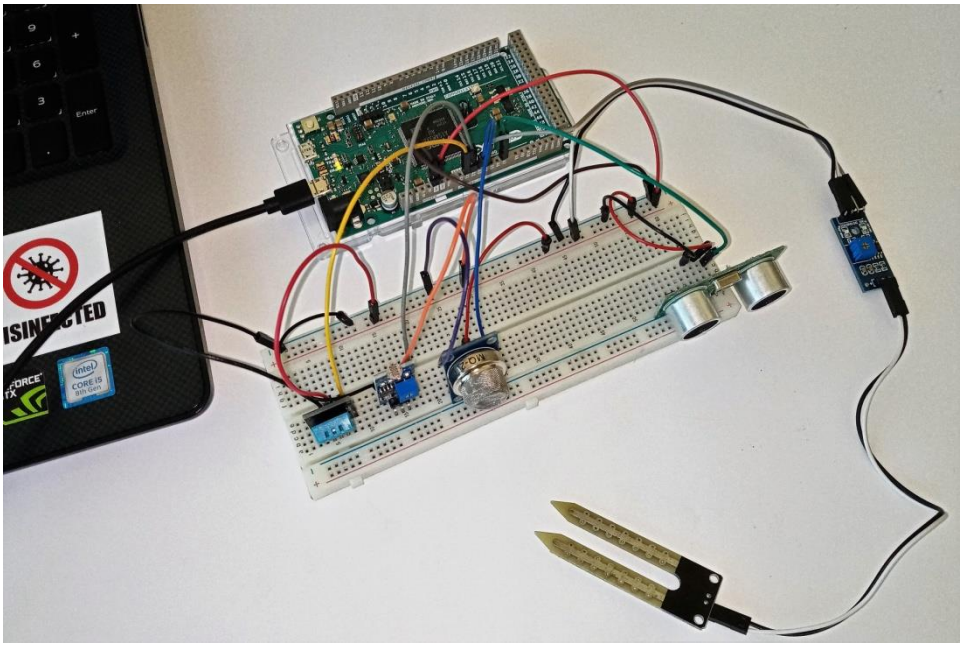

Figure 4.3.2 Prototype of Arduino based sensoring system.

ANN based System for Crop status and early Disease prediction

FAO's estimation is that 20-40% of the global crop yields are annually lost as a result of pest and diseases. In order to control the huge production loss, pesticides and other agrochemicals are considered as very important components of the agricultural industry. It is estimated that more than two million tons of pesticides are used on a global level. Most of the pesticides are harmful to the human and animal health, leaving a strong, even irreversible, impact on the environment - which ultimately causes significant pollution to the entire ecosystem. Timely and accurate diagnosis of plant diseases is of great importance in order to prevent unnecessary waste of resources, achieving healthier crop production and reducing the usage of pesticides that affect the entire ecosystem. Optical observation of the symptoms on the plants is a complex task and even experienced agronomists and plant pathologists are often led to mistaken conclusions and treatments.

Intelligent IoT based devices, such as sensors and unmanned aerial vehicles, allow farmers to significantly reduce the pesticide use by accurate prediction of potential diseases. In comparison to the traditional disease control procedures based on fixed receptors, modern IoT based disease management/control enables real-time monitoring, modeling, disease prediction, and thus is

proven to be more efficient. The crop disease monitoring process and pest management depends on three aspects: sensing, evaluation and treatment.

Various approaches are used for detecting plant diseases. Most common are (ANNs).Though, there are many types of ANN, here is presented the most commonly used type which is the multilayer feed forward network with backpropagation training method.

Advanced approaches to plant disease and pest detection/recognition are based on processing the data obtained by multispectral images analysis and data obtained from autonomous metrological stations.

The module analyzes the status of the outdoor crops, notify/alert for biotic and abiotic stresses in plants and provide an early diagnosis of potential disease development.

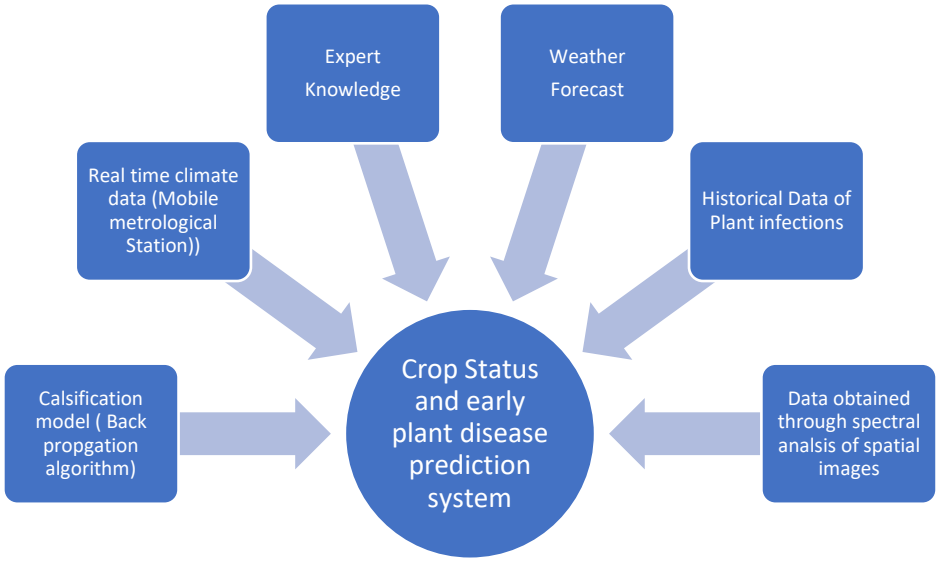

Figure 3.4.1 Crop status and early plant disease prediction system

Figure 3.4.1 shows the structure of this subsystem. An artificial neural network based on the backpropagation learning algorithm is used as a classifier. L2 normalization is used for data preprocessing. The system use processed spatial images obtained by a multi-spectral camera, as well as historical data on the spread diseases both with the employed agronomists expert knowledge. The system automatically download/obtain the weather data, as well as current metrological data obtained by the autonomous metrological stations. The project use beta regression model for prediction. This model is useful in calculating the Severity Index for describing the risk of disease and is normalized in the interval [0-1].

$$Y = pt^q(1-t)H^s$$

Wherein Y is severity index, H is humidity and p, q, r, s are the unknown parameters estimated from the data;

$$t = \frac{(T - T_{min})}{(T_{max} - T_{min})}$$

t is the scaled temperature value defined by the minimum and maximum temperature for the fungal disease to cause infection. The parameter q describes the slope of increasing of Y by increasing of T to the optimal temperature. The parameter r describes the slope of decreasing of Y by increasing of T. Logarithmizing the equation results in an approximated linear function:

$$log(Y) = log(p) + qlog(t) + rlog(1-t) + slog(H)$$

The model training process using back-propagation neural network use the following parameters: temperature, relative humidity and carbon dioxide concentration. The final training model is represented by the following equation:

$$Y = \frac{1}{1 + e^{-(Bo+B1t+B2+RH+B3CO2}}$$

Wherein B0, B1, B2 and B3 represent unknown parameters that are estimated in the neural network training process, t is the temperature expressed in degrees Celsius, RH is the relative humidity expressed in percentages, and CO2 is the amount of carbon dioxide expressed in ppm.

CONCLUSION AND FURTHER RESEARCH

The paper presents our current research in the field of application of AI and IoT in agriculture. The application of ANN as a non-linear classifier, Fuzzy Logic Engines as a representative of informal expert knowledge and the concept of Internet of Things for intelligent communication and data processing are powerful tools that should bring farming management to a qualitatively new level. Their integration in the second level and the correlation of the data obtained from different sources will result in the development of an expert system that will increase the yields on the one hand, and at the same time will enable optimal use of resources. At the same time, it will provide an ecological approach to the protection of the human environment.Initial results are very promising, although much research remains to be done. It is envisaged to create learning databases for training of ANN, development of new phases rules with implemented expert knowledge for different types of plants, development of an intelligent autonomous metrological station.

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The impact of Covid-19 pandemic on online shopping in the state of Albania

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Abstract

Nowadays the use of technology has increased and extended to almost every aspect of life. The use of technology resulted particularly necessary at the time of the pandemic caused by Covid-19. It also impacted the use of technology for online shopping.

The paper aims to investigate the effect of the Covid-19 pandemic on online shopping. The quantitative method was used in the study. A structured questionnaire was used to collect the data. A sample of consumers who used the online shopping methods before the pandemic was selected to be used in the study. Sending emails and distributing the questionnaire on social networks where the population selected for the study. The sample consisted of 175 individuals.

The study showed that online sales in Albania increased, although with a not very high coefficient, and that a good part of Albanian citizens considered online sales and delivery service important, especially during the pandemic time. Also, the authors suggest that there is a need for improvements in online sales service.

Key words: *e-commerce, pandemic, social commerce, online shopping, Covid-19*

Introduction

Nowadays the use of technology is increased and extended to almost every aspect of life. Moreover, the development of technology in the last decade has had an almost exponential growth. The use of technology resulted particularly necessary during the pandemic time caused by Covid-19. This would also have an impact on the use of technology for online shopping (De', Pandey, & Pal, 2020).

The aim of this study is to investigate the effect of the Covid-19 pandemic on online shopping, and the importance of online shopping under the pandemic conditions. In this study it is also

investigated whether there has been an increase or not of online shopping, which products people prefer to buy more online, how important is online shopping during the pandemic time in Albania and also if online shopping in Albania is at a satisfactory level or is still developing.

The research question for this study is:

- Question: Has the Covid-19 pandemic affected the growth of online shopping?

The hypothesis raised for this study is:

- Research Hypothesis: The Covid-19 pandemic has affected the growth of online shopping.
- Null Hypothesis: The Covid-19 pandemic **has not** affected the growth of online shopping.

Literature Review

This section provides an overview of previous studies conducted in the field of online shopping and the impact that the pandemic caused by covid-19 has had on online shopping. The literature review is based on the research question and the purpose of this study.

In one definition, Online Shopping is a method of purchasing products through electronic devices such as cell phones or computers using the Internet (Jackson, Rowlands, & Miller, 1998).

Online Shopping can also be seen as a process of selling and buying goods and services on the World Wide Web (Sunitha & Gnanadhas, 2014).

According to a study by Forsythe and Shi, it explains that the use of Online Shopping has grown rapidly and has increased the use of the Internet, although a good part of consumers use the information collected online to make off-line purchases (so physically in store), (Forsythe & Shi, 2003).

Overall, the e-commerce trend has grown rapidly in recent years with the development of the internet and due to easy access to internet usage. Easy internet access has pushed consumers to shop online, in fact according to a study by the University of California, (UCLA Center for Communication Policy, 2003), online shopping is the third most popular online activity after using email and web browsing.

According to a report / study conducted in May 2020, Covid-19 has had an impact on B2C e-Commerce. The report concludes that during the Covid-19 pandemic, consumers turned to online shopping to buy groceries, daily necessities or other products. The survey cited in the report says some online shoppers were buying more online because of COVID-19, and some of them

confirmed that they had started shopping online for the first time during the pandemic (yStats GmbH & Co. KG, 2020). At the same time, several different sectors, including travel and airlines, experienced a sharp decline due to COVID-19. Online travel agencies such as Expedia Group, Booking, and Airbnb experienced weekly drop-in booking rates of over -90% during April 2020 (yStats GmbH & Co. KG, 2020).

Methodology

The quantitative approach was the method used in the study. Structured questionnaires were used to gather data. Quantitative methods emphasize objective measurements, mathematical, the statistical, or numerical analysis of data collected through questionnaires, surveys, and polls, or by manipulating pre-existing statistical data using computational techniques. Quantitative research is a process focused on collecting and analyzing numerical data, which can be used to calculate descriptive statistics, to prove causal relationships, to make predictions, and to generalize results to wider populations. (Earl, 2010), (Daniel, 2010).

The sample/population for this study consisted of academic and administrative staff, and students of "Luarasi" University. The study was conducted in two main phases:

1) The primary data was collected through a structured questionnaire conducted with Google Forms. The questionnaire was created and taken from different standard models to which were made some different changes about some variables to make more helpful in this study (Kashif, Aziz-Ur-Rehman, & Javed, 2020), (Problem Free Ltd. Company, 2020), (SurveyMonkey, 2020).

   The questionnaire was emailed to students, lecturers and employees of Luarasi University and, also was distributed through social networks in Albania. There were sent about 650 emails which composed the selected population for the study.

   Sending emails and distributing the questionnaire on social networks were the random population selected for the study. The population who filled the form consisted of 175 individuals (61.1% females and 38.9% males). Individuals who completed the questionnaire did not receive any payment or compensation and the completion of the questionnaire was voluntary.

2) Analysis of collected data was done through SPSS and Excel programs. From the descriptive

analysis of these data will be determined the answer to the research question and the confirmation or not of the hypothesis raised.

From a descriptive analysis/statistic of the questionnaire completed by 175 individuals, resulted that:

- Age: 1.1% (2) under 18, 50.3% (88) between 18-24 years old, 26.9% (47) between 25-34 years old, 18.3% (32) between 35-44 and 3.4% (6) above 44 years old.
- Gender: 61.1% were females and 38.9% males.
- Education level degree: 8% (14) High school, 45.1% (79) Bachelor, 34.9% (61) Master and 12% (21) PhD.

Limitations

The limitations of this study were the **digital coverage in Albania**. The disadvantage of this study was the fact that a lot of people in different area of Albania aren't able to access internet and to order products because it is difficult to deliver in these places and we cannot implement our study in these places.

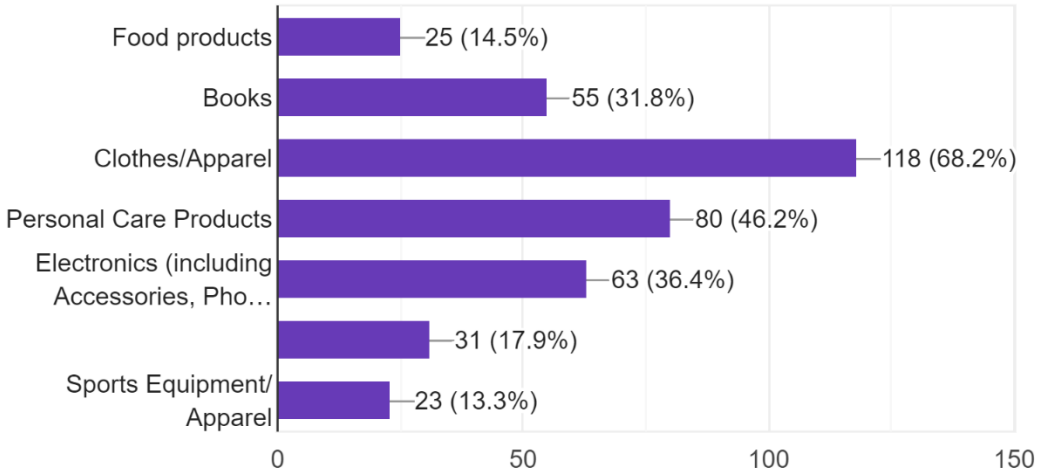
Results and Discussions

Descriptive Analysis

Regarding the question: "*How often do you use internet every day?",* 0.6% of the interviewers answered that they use the internet "less than 1 hour" per day, 19.6% use the internet from 1 to 2 hours per day, 28% use the internet from 3 to 4 hours per day, and 52% use the internet more than 4 hours per day.

The interesting thing, in the last two points we can see that about 80% of interviewers use the internet for more than 3 hours.

As regarding to the question "*What do you usually buy during online shopping (Select as many as it applies to you)*", the respondents answered as in the below chart:



Graph 1: What the people usually buy during online shopping

According to the above graph, the products that people buy most during online shopping are:

- 68.2% (118) Clothes/Apparel,
- 46.2% (80) Personal Care Products,
- 36.4% (63) Electronics (including Accessories, Phones, Computers etc.)
- 31.8% (55) Books
- 17.9% (31) Home Appliances / Kitchen tools / Home & Garden tools
- 14.5% (25) Food Products
- 13.3% (23) Sports Equipment/Apparel

What can be clearly seen from the graph and its results is that the main place for online shopping is occupied by Clothes/Apparel (68.2%), Personal Care Products (46.2%), Electronics (36.4%) and Books (31.8%).

Regarding to the question 6 of the questionnaire: "*Please answer to the following questions. (1 - Never; 2 - Rarely; 3 - Sometimes; 4 - Often; 5 - Very often)*", the respondents had to give an answer to 2 variables as show in the table 1 and table 2.

Table 1

Frequencies of *online shopping before pandemic period* variable

Online shopping before pandemic period

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	27	15.4	15.4	15.4
	Rarely	59	33.7	33.7	49.1
	Sometimes	56	32.0	32.0	81.1
	Often	24	13.7	13.7	94.9

	Very often	9	5.1	5.1	100.0
	Total	175	100.0	100.0	

As shown in table 1, 15.4% of respondents state they have never done online shopping before the pandemic time, 33.7% state they have rarely done online shopping, 32.0% state that they have sometimes done online shopping, 13.7% state they have often done online and 5.1% state to have done online shopping Very Often. These results show that except for a minority of 15.4% who have never used online shopping before the pandemic time, the rest of the respondents have done online shopping before the pandemic period.

Table 2

Frequencies of *Online shopping during pandemic period* variable

Online shopping during pandemic period

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	31	17.7	17.7	17.7
	Rarely	42	24.0	24.0	41.7
	Sometimes	51	29.1	29.1	70.9
	Often	37	21.1	21.1	92.0
	Very often	14	8.0	8.0	100.0
	Total	175	100.0	100.0	

As shown in table 2, 17.7% of respondents state they have never done online shopping during a pandemic time, 24% state they have rarely done online shopping, 29.1% state they have sometimes done online shopping, 21.1% state to have often done online shopping and 8% state to have done Very Often online shopping. These results show that respondents continued to shop online even during the pandemic time. If we compare this table with table 1 it will be noticed that there has been an increase of 7.4% and 2.9% of the number of respondents who have made online shopping often and Very Often.

Table 3

Descriptive Statistics of the two-variable discussed in table 1 and table 2

Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Online shopping before pandemic period	175	1	5	2.59	1.067
Online shopping during pandemic period	175	1	5	2.78	1.199
Valid N (listwise)	175				

Regarding to descriptive statistics for the two-variable showed in the table, 175 respondents gave rating in levels from 1 (for Never) to 5 (for Very Often). The Mean and Std. Deviation for the first variable *Online shopping before pandemic period* are 2.59 and 1.067. The Mean and Std. Deviation for the second variable *Online shopping during pandemic period* are 2.78 and 1.199. There is a little difference between two means.

About the seventh question of the questionnaire: "*Select your level of agreement to the following questions. (1 - Strongly Disagree; 2 - Disagree; 3 - Neutral; 4 - Agree; 5 - Strongly Agree)*", the respondents had to give an answer to 8 variables, the most significant variable for this study are listed in the table 4.

Table 4

Statistics of 6 variables for the importance of Online Shopping during pandemic

Statistics

	Buying more products online than physically during coronavirus.	Online shopping is comfortable /safe comparing to physical shopping during coronavirus.	Continue Online shopping after Covid-19 with the same rate.	Online shopping satisfies as much as physical shopping.	People recommend online shopping during Covid-19.	Online Shopping protects our health from Covid-19.
Valid	175	175	175	175	175	175
Missing	0	0	0	0	0	0
Mean	2.98	3.25	2.91	2.57	3.38	3.33
Median	3.00	3.00	3.00	3.00	4.00	3.00
Mode	3	4	3	3	4	5
Std. Deviation	1.217	1.234	1.087	1.053	1.163	1.345

For each of 6 variables in table 4, evaluation scheme is from 1 to 5. We note that the average value (Mean) for each variable is above 3, except one variable, that has the smallest value of mean (Online shopping satisfies as much as physical shopping =2.57) which means that Online Shopping does not give the same pleasure as Physical Shopping.

Table 5

Frequencies of *Online Shopping protects our health from Covid-19* variable

Online Shopping protects our health from Covid-19

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	21	12.0	12.0	12.0
	Disagree	30	17.1	17.1	29.1
	Neutral	39	22.3	22.3	51.4
	Agree	40	22.9	22.9	74.3
	Strongly Agree	45	25.7	25.7	100.0
	Total	175	100.0	100.0	

As shown in the table 5 above, 12.0% of respondents strongly disagree (Strongly Disagree) that Online Shopping protects our health from Covid-19, 17.1% disagree (Disagree), 22.3% are neutral, 22.9% Agree that Online Shopping protects our health from Covid-19 and 25.7% strongly agree (Strongly Agree). The results show that about 48.6% of respondents agree that Online Shopping protects our health from Covid-19, while respondents who disagree (Disagree) are about 29.1%. So, there is a difference of 17.5% between those who agree and those who disagree.

Research question and hypothesis test

Table 6

Reliability statistics of the questionnaire with 16 variables

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.894	.893	16

The reliability of the questionnaire was also verified with the SPSS program, where the Cronbach's Alpha coefficient (with a value of 0.894) turned out to have a very good value almost excellent. This means that the results obtained from this study using this questionnaire are reliable.

Given the reliability of the questionnaire and the descriptive analysis and statistics of the questionnaire variables (see tables 1, 2 and 3) and the correlation connection between variables (table 7), we can answer the research question and hypotheses raised for this study. The product of the research gave answers the question and hypothesis raised in this study. Regarding the studied variable "Online Shopping", from a descriptive quantitative analysis of data, it turns out that due to the pandemic there has been an increase in online shopping. As you can see in the table 3, from the evaluation of the questionnaire the average of purchases before the pandemic was 2.59 and during the pandemic 2.78, with an increase of a value of 0.19. According to the average estimation of these variables as well as the correlation connection between them, as the author Xhomara (2019) suggests, it resulted to be a strong connection (table 7). So, the base hypothesis is proved "*The Covid-19 pandemic has affected the growth of online shopping*". This result also coincides with the results found during the literature review in previous studies in terms of the impact that the pandemic has had on Online Shopping.

Table 7

Correlations matrix

Correlations

		Online shopping before pandemic period	Online shopping during pandemic period
Online shopping before pandemic period	Pearson Correlation	1	.522**
	Sig. (2-tailed)		.000
	N	175	175
Online shopping during pandemic period	Pearson Correlation	.522**	1
	Sig. (2-tailed)	.000	
	N	175	175

**. Correlation is significant at the 0.01 level (2-tailed).

Conclusions and Implications

The purpose of this study was to study the impact of the pandemic caused by Covid-19 on Online Shopping. Also, to understand how important is online shopping during the pandemic in Albania, how much the Albanians recommend it to others and do they think that online shopping really protects people from Covid-19.

From the study of the variables "*Online shopping before pandemic period*" and "*Online shopping during pandemic period*", the results showed that even though it had a small influence during the pandemic time, Online Shopping has had an increase. Also, a majority of respondents state that Online Shopping is more comfortable and safe and also state that it protects our health from Covid-19 during the pandemic time. Another interesting fact of this study is that a large proportion of respondents recommend Online Shopping during the pandemic.

From literature review for online shopping during the pandemic time, the results of this study coincide with previous studies.

Future Work

The next future work paper is to see which products have had increase most in online shopping during the pandemic time in the state of Albania.

Has there been an improvement of the service offered in online shopping in Albania?

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Data Mining Techniques in Cloud Computing

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Abstract

Cloud computing is a model that offers software delivery as a service, for businesses or individuals accessing it anytime and from any place. The cloud computing provides cheap and efficient solutions for massive data storage and analysis. Data Mining is a discipline, extending to the intersection of statistics, machine learning, data management, databases, recognition models, artificial intelligence and other areas. It provides the methodology and technology to transform data into useful information for decision making and it plays a guiding role in many areas of scientific research and business decisions, with far-reaching social and economic significance. This article discusses some of the data mining methods used in cloud computing, focusing on how they are implemented. Research on data mining in cloud computing environments has important theoretical significance to gain a better understanding of data mining techniques.

Key words: *Data Mining, Cloud Computing, Data Mining Techniques, Machine Learning*

Introduction

Analysing a large amount of data is very important for any business company, law enforcement agency, medical field, etc. It is important because analysis enables the decision makers to achieve it. In recent years, cloud technology has been widely used. Through this paper we seek to present how different data mining methods can be implemented on cloud technology.

To accomplish this work we have selected articles that illustrate the link between data mining and cloud computing. The connection consists in using data mining methods or techniques and not just in cloud computing. Articles are selected in such a way that each of them presents in one way or another, the use of data mining and its techniques in the cloud environment.

This article presents an analysis of the use of data mining methods in cloud computing. This analysis presents the advantages and disadvantages of their use, as well as an analysis of how the

various problems encountered in the studies addressed in conducting this article can be improved. This paper provides a review of various data mining techniques and algorithms which can be used in cloud computing environment.

Cloud Computing

Technologies such as computer clusters, networks and more recently cloud computing have become a reality. The purpose of their creation is to use these powerful and virtualized resources for the various purposes of individuals, companies and beyond. The main purpose of the cloud computing model is to provide data storage and data analysis to businesses or individuals who access it at any time and from any location. Cloud computing is an emerging shared infrastructure. It is automatically formed from a virtual resource pool via the network. The main goal for consumers would be to use Clouds as their IT infrastructure for day-to-day operations, eventually giving up local machines and service.

Cloud models

The services offered in cloud computing are divided into three models:

1. Infrastructure as a Service.
2. Platform as a Service.
3. Programs as a Service.

The following figure shows the organization in cloud layers ranging from physical to application infrastructure.

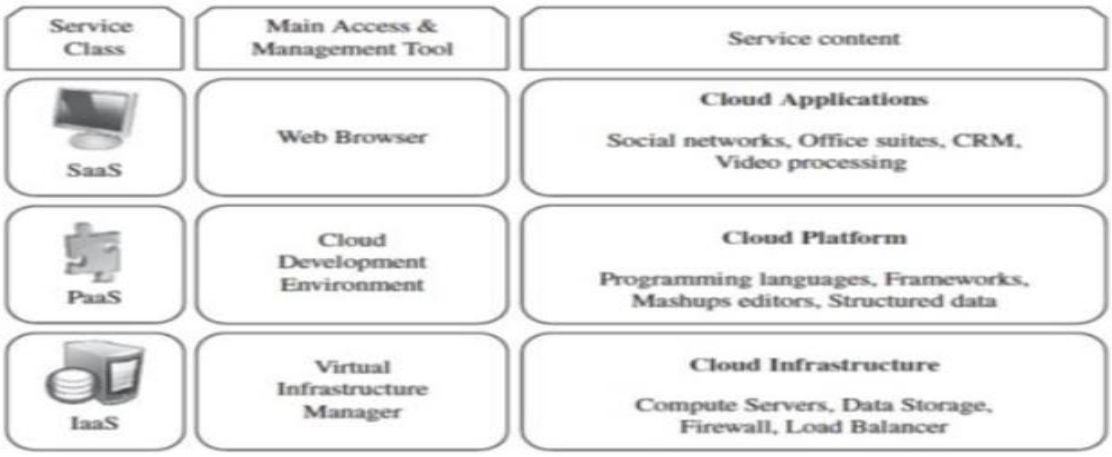

Figure 1: Organizing in layers

Infrastructure as a Service

The provision of virtualized resources (data storage, communication, computation or processing) according to the specific needs is known as "Infrastructure as a Service", IaaS. This cloud-based infrastructure makes it possible to provide, on demand, servers that enable the choice of operating systems and software packages needed. This service infrastructure is positioned on the last layer of the cloud computing system. Amazon Web Services mainly offer IaaS, which in the case of EC2 provides virtual machines with a suite of programs that can be tailored to the user-selected physical server. Users are granted rights that enable a large number of server activities such as: on and off the server, software installation options, exploring HD "virtually", as well as configuring server access rights and firewall rules.

Platform as a Service

Another infrastructure, which provides a higher level of independence and makes the cloud easily programmable is known as the 'Platform as a Service', or as PaaS. This cloud platform allows software developers to create and deploy applications on the server without having to know HW resources first, the number of processors, the internal or external memory occupied by the applications they use or develop. Also, many programming models and specialized services such as; data access, authentication, and payment are packages that the developer can easily use for his benefit. Google AppEngine is an example of PaaS, which offers the ability to develop and host Web applications, usually written in a programming language such as Python and Java. Also Windows Azure is another example of this platform.

Building these platforms also includes e-mail, chat and other services. Their slogan is: Focus on your app, leave the rest to us. This is a good example of what a platform offers as a service.

Programs as a Service

Applications stay at the top of the cloud in terms of deployment. The services of these providers can be accessed by users through Web portals, which is enabled by this layer. Users switch from a program installed on their computer to an online service that offers them the same functions as before. Traditional word applications, excel, powerpoint, etc. can be accessed from a Web service. This provided application template, known as "Software as a SaaS Service", enables users to care neither for software maintenance (installation, update, version changes, etc.) nor for testing and operating them. Salesforce.com represents an SaaS model and provides business applications

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where the cloud is deployed and users can customize and access the app at any time and from any location.

Types of Cloud Computing

Clouds are generally perceived and displayed as public computer services, but in fact there are other patterns depending on their physical location and the way they are distributed and intended. In this regard, referring to the type of service, the clouds can be classified into public, private, hybrid and wide use ones.

The public cloud is a cloud built for the general public in the form of "pay as you go", while the private cloud is conceived as an internal data centre of a business or organization that is not available to the general public.

In most cases, building a private cloud means restructuring an existing infrastructure by adding virtualization and cloud as an interface. This allows users to interact with the data centre and has the same advantages over public clouds, ie it can access virtual servers, change and modify the interface, measure and billing for its use. The "widespread use" cloud is a division between organizations and covers some specific communities that share a common purpose, such as religious organizations, military missions, and so on.

A hybrid or intertwined cloud is considered a private cloud based on the computing capacity of a public cloud.

Data Mining

Computer hardware technology has made steady progress in recent decades and this has resulted in powerful and affordable computers for users. This technology gives a boost to the database industry and enables preparation for transaction management, information acquisition and data analysis of a large number of databases. Increasing the volume of saved data requires new techniques and automated tools that can intelligently help transform large amounts of data into knowledge. This has led to the generation of a field in computer science called Data Mining as well as its various applications. Data Mining is the process of examining large volumes of data in order to find new information on it, such as databases, data warehouses, the web etc. At the core

of Data Mining is building models. A model is simply an algorithm or set of rules that associates an input set with a given output one. There are two ways to match the data to the model created:

1. The Predictive Mode used to derive models that describe important data classes or predict future data trends.
2. Descriptive mode allows or presents the relations that are hidden in the data and provides different results.

Techniques used in both predictive and descriptive ways are related to each other.

Predictive techniques

Classification

Classification is the process of finding a model that predicts data classes. The model is derived based on the analysis of a training dataset and is used to predict the class of objects of which it is unknown. The derived model can be presented in several ways such as "if ... then" classification rules, decision trees, mathematical formulas, neural networks. It is first applied to a probationary community to be used assigned a classification model called "classifier". Once the classifier is developed, it is used to classify other data into the same predefined classes that are not in the test set.

Regression

While classification provides categorical, discrete labels, regression has continuous function values. So regression is used more to predict missing numeric data values than discrete class labels. Regression analysis is a statistical methodology often used for numerical prediction, although other methods exist. Regression also involves identifying the distribution of trends based on available data. For this purpose regression trees can be used as well as decision trees whose nodes have numerical values instead of categorical values. Linear regression is the mathematical technique that can be used to generalize a numerical data set by creating a mathematical equation. Logical regression on the other hand estimates the probability of verifying an event under certain circumstances, using the factors observed together with the occurrence or not of the event.

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Descriptive techniques

Clustering

Unlike classification and regression, which analyze data sets in training classes, clustering analyzes data objects without consulting class labels. In many cases, tagged class data may not exist at first. The objects are grouped according to the principle of maximizing interclass similarity and minimizing interclass similarity. So groups of objects are formed in such a way that the objects within one group have great similarity to each other, but also to be distinct from the objects of the other groups. Any grouping thus formed can be viewed as a class of objects, from which they can be derived rules.

Association Rules

Association Rules is the most popular method in DM for detecting interesting relationships between variables in a very large dataset. Association Rules identify the arguments found together with a given, event or record: "the presence of one set of arguments brings the presence of another set". This is how rules of type are identified: "if argument A is part of an event, then for a certain probability argument B is also part of the event". Association Rules can also be viewed as an X□Y implication, where X is 'antecedent' and Y is 'consequent'. Association Rules are structures (if) / then (then) that help detect relationships between seemingly unrelated data in a relational database or other repository of information. In DM connecting rules are useful to analyze and predict customer behavior. Programmers use binding rules to build programs capable of machine learning.

Literature review

Technologies such as computer clusters, networks and more recently cloud computing have become a reality. The purpose of their creation is to use these powerful and virtualized resources for the various purposes of individuals, companies and beyond. An important goal of these technologies is the benefits they bring to the computing field. The main purpose of the cloud computing model is to provide data storage and data analysis to businesses or individuals who access it at any time and from any location. Analyzing a large amount of data is very important for any business company, law enforcement agency, medical field, etc. It is important because data analysis enables the software users to make the right decisions. In recent years, cloud technology

has been widely used. It is also used in data mining, which creates models within machine learning. In the literature, some works for the data mining in cloud computing have been presented.

Mansor Zauir et al. (2013) propose in their research some methods of data mining in cloud computing. The advantages and disadvantages of all methods of data mining in cloud computing are also determined in order to choose the best method. This research determines the taxonomy of data mining in cloud computing based on current researcher's contributions. So the researchers made an analysis of the use of data mining methods in cloud computing. This is done by drawing the positive and negative sides of each method. They also analyzed some data mining applications in cloud computing defining the strengths and weaknesses of each application.

Kriti Srivastava et al. (2013) use data mining clustering methods in their paper. The Hierarchal Agglomerative Clustering algorithm is implemented. This article modifies the algorithm to suit cloud architecture so it enables benefits. In addition to this it provides us with the following benefits like Hierarchical Agglomerative clustering which can handle large datasets and increase algorithm efficiency which has reduced the time required for execution.

Viki Patil et al. (2013) in their paper attempt to parallelize a wide range of machine learning algorithms and achieve significant speedup on a dual processor cores. Data mining algorithms have been improved in order to combine it with the Map-Reduce the cloud programming model so that it can mine large amounts of data. His conclusion was that Neither Map Reduce-like software or parallel databases alone are ideal solutions for data analysis in the cloud. One solution for data analysis may be hybrid systems.

A. Srinivas et al. (2013) have made a detailed article of cloud computing and data mining. The issue of cloud data mining focusing on security has been explained through an example of "multivariate analysis" The conclusion of this example is that cloud computing provides data storage in a server and protects data using and data mining concepts. In cloud computing the data is being transferred from one server to another in a peer to peer transaction.

CH.Sekhar et al. (2014) do a data mining analysis in the cloud computing highlighting the advantages and disadvantages of techniques. They focus on the association rule of data mining, with the conclusion that Cloud Computing provides data storage in a server and protects data by using data mining concepts which is similar to the conclusion of the research mentioned above. The application of data mining technologies through cloud computing plays an important role because it helps companies make predictions about the future.

Hamza Ahmed (2015) in his study concluded that the great potential of cloud computing to store and process data, as well as the data mining techniques that have shifted to the cloud, are a great platform to analyze large volumes of data produced daily that has useful information hidden in itself. Accessibility of the service from anywhere creates a decentralized system and this is a great advantage.

K.Ramya et al. (2015) in their article explain various data mining algorithms that can be implemented in cloud computing. They describe the characteristics of these algorithms and why these algorithms are implemented in the cloud.

Snehal Govind Tagalpallewar et al. (2015) in their article they provide detailed information on the basic concepts of cloud computing and data mining. The article outlines how data is used in cloud computing and the reflection of data mining algorithms based on parallel programming services. Data mining technologies provided through cloud computing are absolutely essential for today's businesses to make proactive, knowledge driven decisions and help them predict future trends and behaviors. Madhusudhan.R.Anegundi (2015) in his paper gives detailed information on the need for data mining techniques implemented in cloud computing to provide efficient and secure services for their users. Also the techniques should reduce the storage infrastructure.

Data Mining Techniques in Cloud Computing

Cloud data mining has been the most researched area in cloud computing. As time goes by researchers have come up with many implementations of data mining techniques and algorithms in cloud environment. These algorithms have been realized in cloud environment with the help of some cloud mining frameworks (such as Map Reduce, Hadoop, etc) and paradigms. The implementation of data mining techniques through Cloud Computing will permit the users to get significant information from virtually integrated data warehouses. These techniques reduce the infrastructure cost of storage.

Data Mining in the Cloud permits performing some fundamental information mining assignments leveraging a cloud-based Analysis Services association.

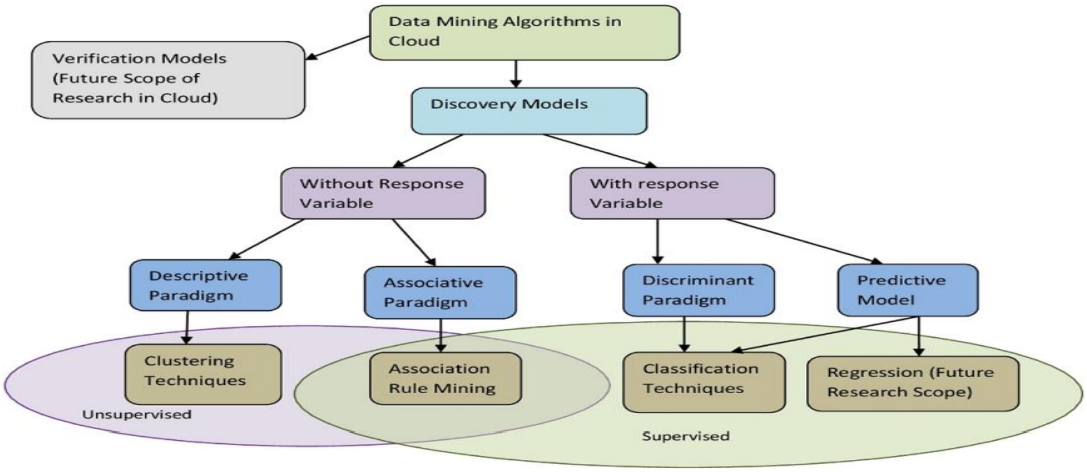

Figure 2: The data mining techniques implemented in cloud.

Classification – Classification in cloud computing usually used the following methods: k-nearest neighbor, decision tree and the parallel SVM for cloud is a support vector machine based technique. SVM is implemented in cloud environment with parallelism. Here, the famous Map-reduce Framework is made to use in implementation of training of classifier SVM in cloud. Training is related to voluminous data therefore data parallelism is employed in the training stage itself. Training of the data, which is distributed above cloud storage, is done in parallel [18]. Naïve Bayes parallel technique comes under Bayesian Classifier. This probabilistic algorithm is merged with Map-reduce framework to achieve high parallelism in cloud. Hadoop framework with HDFS has been selected to implement Naive Bayes' parallel technique.

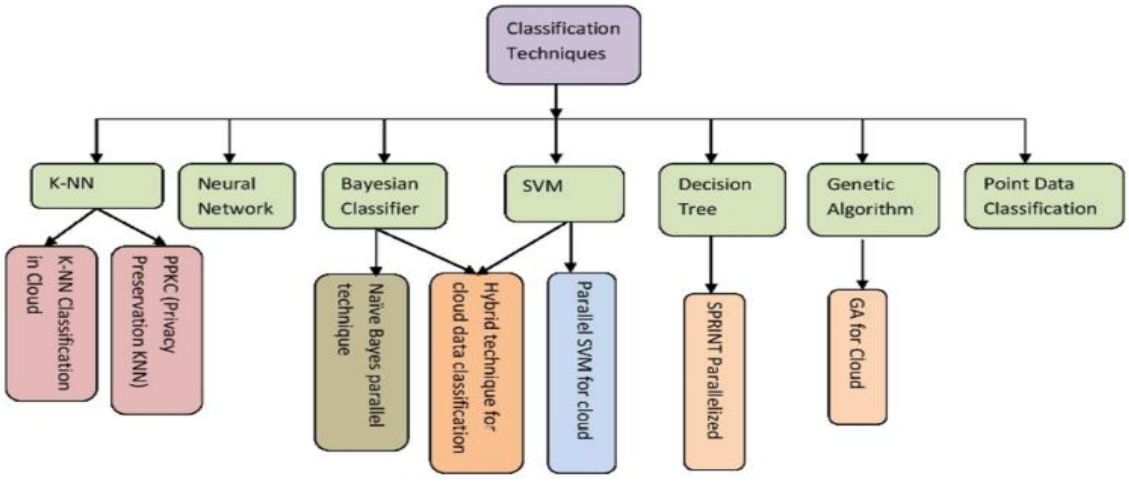

Figure 3: Classification techniques implemented in cloud.

Prediction - The training and prediction are mostly dependent on the volume of data and is used the data parallelism technique. The technique is proved to have better efficiency and scalability in parallel mode. The model was parallelized in Apache Spark 1.4.0 with a master node and some slave nodes with the help of Amazon EC2.

Clustering - Clustering model for assessing SaaS helps to evaluate possible software services on the cloud computing by using Data Mining Clustering algorithms. The clustering model helps service providers to increase the availability of software services on the cloud computing environment suitable for users of cloud needs. The major categorizations of clustering techniques implemented in cloud are: Hierarchical, Partitioning, Bi-Clustering, Soft Clustering based and Density based. Hierarchical-Agglomerative Clustering and Bi- Clustering techniques BiTM-MR are algorithms implemented over cloud frameworks such as Map Reduce and Spark Generally, Cluster analysis is employed for such applications in cloud. Some clustering algorithms for statistical data analysis with varied parameters are Web FCM and Bi-Clustering BiTM-MR implemented in Apache Spark in cloud.

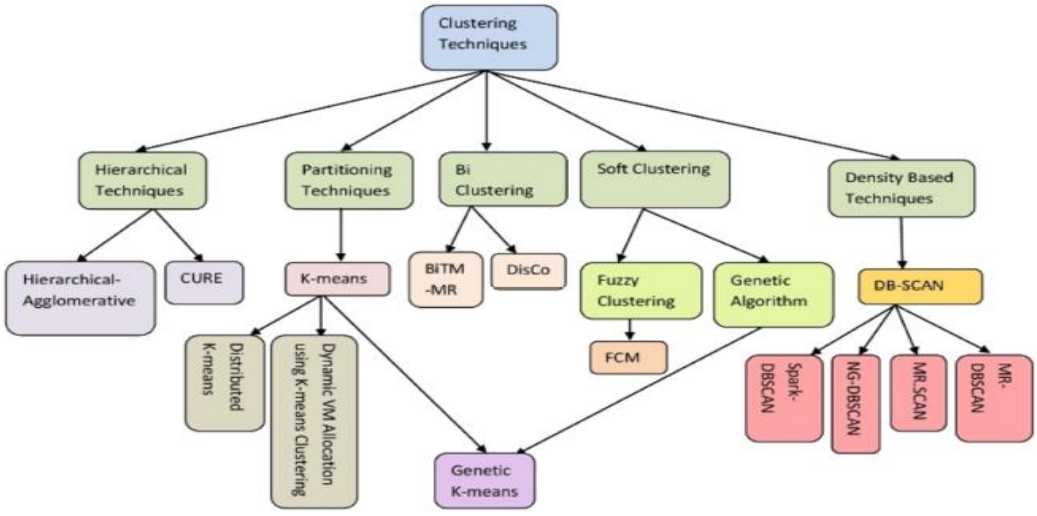

Figure 4: Clustering techniques implemented in cloud.

Association Rule - Association rule mining helps finding relations between the items or item sets in the given data. The association rule mining algorithm in Hadoop increases the number of nodes that can be handled [19]. Association rule in cloud computing usually used the following methods or algorithms: Apriori algorithm, Improved Apriori algorithm, parallel association rule mining algorithms, association rules mining algorithm. Apriori algorithm is used in the cloud computing environment to solve traditional problems encountered in the traditional Apriori data mining.

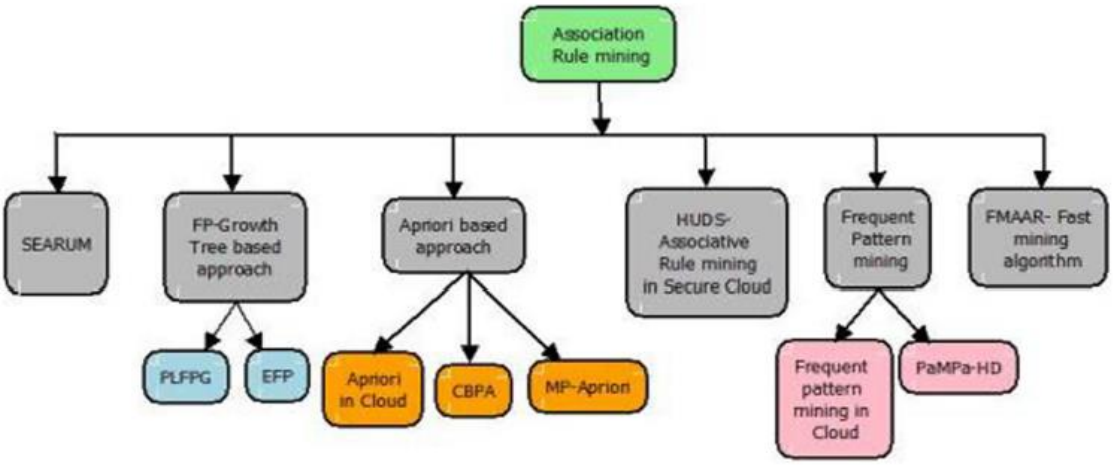

Figure 5: Association rule mining techniques implemented in cloud.

Majority of algorithms implemented for mining diversified data is based on Association rule mining technique. Hadoop and Map-reduce frameworks have been successfully used for such implementations.

Conclusion

Cloud computing is a new computation model that offers great computing capabilities and significant data storage resources. It provides storage of data in a server and protects data by using data mining techniques. Data mining techniques, algorithms and applications can be effectively used in cloud computing environment. The implementation of data mining techniques through Cloud computing will allow the users to retrieve meaningful information from virtually integrated data warehouse that reduces infrastructure costs of storage. The application of data mining technologies through cloud computing plays an important role because it helps companies make predictions about the future. The potential of cloud computing to store and process data is great. Data mining techniques establish a great platform to analyze the large volume of data produced every-day. The accessibility of the service from anywhere creates a decentralized system and this is a great advantage. Data mining technologies provided through Cloud computing is an absolutely necessary characteristic for today's businesses to make proactive, knowledge driven decisions, as it helps them have future trends and behaviors predicted. The data mining in Cloud Computing aims at leading companies to focus on software management and data storage. These techniques are cost effective, reliable, secure and efficient services for their users. Both Data Mining

techniques and Cloud Computing help the business organizations to achieve exploited profit and cut costs in different possible ways. The cloud computing with its distributed computing platform is powerful and very useful. The implementation of the data mining techniques in cloud are a huge advantage and potential. Applying data mining to cloud computing can provide massive data. The data analysis help for the betterment of decision making.

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A comparative study of curriculum and assessment of Law, Finance, & ICT at Luarasi university vs three UK universities

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Abstract

The study aims to compare the curriculum of law, finance, and ICT at Luarasi university with three UK universities. A comparative quantitative research design was selected to be used in the study. The curriculum content and assessment variables were selected to be compared in the research. Descriptive statistics was the main analysis conducted in the research. The study revealed that there are about double mandatory subjects in law, accounting, and finance, as well as in information technology at Luarasi university compared to Bristol University, London School of Economics, and London South Bank University in the three years of study, It is found that there are not optional subjects in law, accounting and finance as well as in information technology programs at Luarasi university, meanwhile an important part of

curriculum in Bristol University, London School of Economics, and in London South Bank University is optional. The study found that the assessment component of the law program at Luarasi university is the dominant oral exam; meanwhile, at Bristol university, there are written exams and coursework during the three years of study. It is revealed that the written exams, coursework, and class participation' assessment components are the same in accounting and finance as well as in the information technology program at Luarasi university compared to the London School of Economics and London South Bank University, but there are little differences about % taken.

***Keywords**: curriculum, assessment, law, accounting and finance, information technology.*

Introduction

The role of the curriculum in higher education is quite important for the provision of quality and relevant educational programs to the students. Regardless of sizes, types or origins, the curriculum is considered the heart and soul of all educational institutions (Khan, & Law, 2015). The curriculum is crucial for the well-being and effectiveness of higher education and is associated with outcome-based learning (Barnett & Coate, 2005: Wang, 2015). There is a wide range of activities taking place under the banner of 'co-created curriculum' within higher education due to the different ways people think about 'co-creation'. The significant variation is due to how higher education curriculum is conceptualized, and how these conceptualizations position the student about the curriculum (Bovill, & Woolmer, 2019). The problem of the 'hidden curriculum' has not been solved by the transition from a teacher-centered education to a student-centered educational model that takes the student's experience as the starting point of learning (Orón, José, & Blasco, 2018). Faculty development programs for internationalization of the curriculum in higher education are often evaluated for short- and medium-term outcomes, but more long-term assessments are needed to determine the impact (Urban, Navarro, & Borron, 2017). The Standards for Education prioritizes knowledge of culturally inclusive practices and challenges the educational community to present research on well-structured, inclusive, cross-curricula education partnerships (Pridham, Martin, Walker, Rosengren, & Wadley, 2015).

The study aims to compare the curriculum of law, finance, and ICT at Luarasi university with three UK universities. *Research questions include*: (1) Is there any difference between the law program

curriculum at Luarasi university and Bristol university? (2) Is there any difference between the finance program curriculum at Luarasi university and the London School of Economics? (3) Is there any difference between ICT program curriculum at Luarasi University and London South Bank University?

Overview of universities in the study

The Luarasi University is a non-public institution of higher education in Albania established in the academic year 2003–2004 initially with the Faculty of Law. Today he conducts his academic and research activity in three faculties: Law, Economics and Information Technology and Innovation. Luarasi offers bachelor's and master's degree programs in all three faculties. The number of students enrolled in different programs is 2000 (https://luarasi-univ.edu.al/).

The University of Bristol is a research university in Bristol, England. It received its royal charter in 1909, although it can trace its roots to a Merchant Venturers' school founded in 1595 and University College, Bristol, which had been in existence since 1876. Bristol is organized into six academic faculties composed of multiple schools and departments running over 200 undergraduate courses. Bristol is ranked 76th in the world, and 6th in the UK in the 2016 Round University Ranking. The university gives offers of admission to 67.3% of its applicants. The university has a student enrolment of around 23,500 undergraduate students (https://www.bristol.ac.uk/).

The London School of Economics is a public research university located in London, England. Founded in 1895, LSE joined the University of London in 1900 and established its first degree courses under the auspices of the University in 1901. The school is organized into 27 academic departments and institutes which conduct teaching and research across a range of pure and applied social sciences. LSE was ranked 26th out of the 1258 institutions ranked worldwide, and fifth out of the 98 institutions in the UK. The School offers over 140 MSc programs, 5 MPA programs, an LLM, 30 BSc programs, an LLB, 4 BA programs, and 35 Ph.D. programs. The acceptance rate of the university is only 8.9% for undergraduate applicants. The university has a student enrolment of around 11,960 undergraduate students (http://www.lse.ac.uk/).

https://www.gotouniversity.com/universities-acceptance-rate

London South Bank University is a public university in London. Founded in 1892 as the Borough Polytechnic Institute, it achieved university status in 1992. In September 2003, the university underwent its most recent name change to become London South Bank University. The university has seven Schools; (1) School of Applied Sciences, (2) School of Arts and Creative Industries, (3) School of the Built Environment and Architecture, (4) School of Business, (5) School of Engineering, (6) School of Health and Social Care, (7) School of Law and Social Sciences. The university has 17,985 undergraduate students. South Bank University is ranked 701st in the world, and 60th in the UK (https://www.lsbu.ac.uk/).

https://www.gotouniversity.com/universities-acceptance-rate

Literature review

Law curriculum

The curriculum learning objectives and interaction within a law study program support students to becoming better at reflecting on the curriculum, and improving their teamwork, communication and soft skills (Sørensen, 2017; Turner, Amirnuddin, & Singh, 2019). The proper planning and execution in introducing innovative law programs, as well as using a problem-based learning approach influence the study success (Pattnaik, Pandey, & Mustafa, 2018; McCourt, Low, & Tappin, 2017). Kennedy, Mundy, and Nielsen (2016) revealed the significance of place-consciousness as a pedagogical tool, and the capacity of the "Rethinking Law" package to encourage law students, and Kleemola and Hyytinen (2019) showed that prior performance was associated with students' progress. Hamzah (2018), and O'Brien, Powers, Richard, Wesner, and Thomas (2018) concludes that most top business schools recognize the value of clinical legal education and business law courses in the core curriculum and that these courses contribute substantially to learning goals. Edmonds, Flanagan, David, Palmer, and Timothy (2013) indicated that law school intentions are driven by whether students feel they would enjoy the work of a lawyer, and Kanokpermpoon (2019) showed that critical thinking is an important 21st-century learning skill that develops learners' proficiency. Hall (2019) indicated that a framework for thinking critically about curriculum design is the most important tool for the students' progress.

Problem-based learning, and thinking critically about curriculum design are the important tools to the students' progress and their active involvement (Wijnen, Loyens, Smeets, Kroeze, & Van der Molen, 2017; Hall, 2019).

Finance curriculum

The well-structured design finance programs develop capabilities and the essential knowledge of graduates with well-developed capabilities in finance (Hoadley, Tickle, Wood, & Kyng, 2015; Imam, 2018). Munyanyiwa, Svotwa, Rudhumbu, and Mutsau (2016) revealed that major factors considered in curriculum design included students, industry needs, legislation, competition as well as external examiners, and Hill, and Wang (2018) suggests that the integration a learning outcomes-based sustainability into the curriculum help to increase the better understanding of sustainability. A computerized accounting software curriculum should support accounting and finance students and influence their cognitive skills (Machera, & Machera, 2017; Lakshmi, 2013). Ahmad, Khan, and Ahmad (2018) found that business administration focuses more on the soft skills, marketing, and social science subjects, and commerce focuses more on accounting, finance, taxation, and auditing, and Macht (2016) revealed that the existence of bonding social capital, allows entrepreneurs to access their financiers' resources through bridging social capital. Rubin and Wright (2017) found that working-class students tend to be less socially integrated at university than middle-class students, because they may have fewer finances available to participate in social activities, and they are likely to have more work or others commitments. Re-thinking and re-conceptualizing knowledge organization for science academic knowledge are appropriate to the needs of the school curriculum (Booi, and Khuzwayo (2018), and working-class students tend to be less socially integrated at university than middle-class students (Rubin, a& Wright, 2017).

ICT Curriculum

Verhoeven, Heerwegh, and De Wit (2016) concluded that there is a relationship between the ICT learning experience and the research-oriented commitment of bachelor's students, their command of ICT skills and the frequency of use of computers, ICT instruments, and ICT programs;

meanwhile, Semerci and Aydin (2018) illustrated that respondents have a high level of positive attitude towards ICT use in their classes. Hilty and Huber (2018) identify five thematic clusters with the greatest potential to motivate students: the positive and negative impacts of ICT, recycling of ICT hardware, using ICT to reduce greenhouse gas emissions, statistical data on post-industrial seemingly dematerialized economies, and evidence for goods or services that are produced with less energy input. Xiong and Lim (2015) found out that feedback of learning experiences is important to improve the ICT curriculum; and Isaacs, Kazembe, and Kazondovi (2018) indicated that the lacked training in ICT pedagogy influence incorporating ICT skills and tools into lessons. The learning value of an online simulation was more beneficial than traditional teaching methods (Beukes, Kirstein, Kunz, & Nagel, 2018); and there is a slightly moderate positive relationship between lecturers' attitudes towards ICT integration into the curriculum and their ICT use in the classroom (Hue, & Ab, 2013). The ICT curriculum as a lens and sensitizing concept influence educational quality improvement (Lubin (2016; Hazar, 2019), and the collaborative learning, adjusting and fitting technology, pedagogy, and possessing a personal computer to impact the progress of students (Konca & Tasdemir, 2018; Nami, & Vaezi, 2018). Curriculum design and delivery, knowledge, and skills of future ICT professionals, teaching methods, learning outcomes, and collaboration between academia and industry influence the career development of ICT professionals in the labor market (Anicic, Divjak, & Arbanas, 2017; Coskun, 2015).

Methodology

Method and design

A comparative quantitative research design was selected to be used in the study. Three curriculum study programs at Luarasi university were chosen to compare to the three study programs in three UK universities. The curriculum content and assessment variables were selected to be compared in the research.

Population and sample

Three curriculum study programs in four different universities in Albanian and UK were the population and the sample of the study. There were: law, accounting and finance, and information

technology at Luarasi University, Bristol University, London School of Economics, and London South Bank University.

Statistics analysis

The research was mainly descriptive and is focused on the comparative exploration of the three study programs: law, accounting and finance, and information technology.

Therefore, descriptive statistics was the main analysis conducted in the research.

Results and discussion

Law curriculum

Law program at Luarasi university provides the necessary legal knowledge that serves as a basis for further specialization in areas such as lawyers, notaries, lawyers in commercial and state companies, lawyers in various institutions, such as in central and local public administration, etc.

Literally Legum Baccalaureus (LLB) program at Bristol university is a three-year qualifying law degree. In the final year, all students produce a 5,000-word project on a topic of their choice. The core and optional units reflect the wide variety of approaches to legal research adopted by the scholars in the Law School.

Mandatory and optional curriculum for the first, the second, and the third year of study are as follows.

Table 1: Mandatory core curriculum for the first year of study

No	Luarasi University/ Unit name	Mandatory /Optional	Bristol University/ Unit name	Mandatory /Optional
1.	Theory of rights	Mandatory	Introduction to Law	Mandatory
2.	History of Institutions & History of rights in Albania	Mandatory	Law of Contract	Mandatory
3.	English	Mandatory	Law of Tort	Mandatory
4.	Constitutional Rights	Mandatory	Law and State	Mandatory
5.	Civil Rights	Mandatory	Constitutional Rights	Mandatory
6.	Psychology of law/Sociology of law/Logics of law	Mandatory	Criminal Law	Mandatory
7.	Penal rights (general part)	Mandatory		

Source: https://luarasi-univ.edu.al/ & https://www.bristol.ac.uk/

In the first year, as shown in table 1, there are 7 curriculum subjects in a law study program at Luarasi university, and 6 subjects at Bristol university. All of the subjects of law program in the first year are mandatory in two universities, and almost all of them include law terms.

Table 2: Mandatory and optional curriculum for the second year of study

No	Luarasi University/ Unit name	Mandatory /Optional	Bristol University/ Unit name	Mandatory /Optional
1.	Labor and social security rights	Mandatory	Land Law	Mandatory
2.	Penal rights (Specific part)	Mandatory	Law and Policy of the European Union I	Mandatory
3.	Obligation rights	Mandatory	Jurisprudence	Mandatory
4.	Family rights	Mandatory	Choose at least one 20 credit point second-year law unit from the list below:	
5.	Administrative rights	Mandatory	Comparative Law	Optional
6.	Roman rights	Mandatory	Crime, Justice, and Society	Optional
7.	Public procurements/law clinic	Mandatory	Medical Law	Optional
			Advanced Tort	Optional
			Roman Law Choose 40 credit points from the list below. Students may choose only one Open Unit.	
			Family Law	Optional
			Company Law	Optional
			Evidence	Optional
			General Principles of International Law	Optional
			Introduction to Intellectual Property	Optional
			Open unit	Optional

Source: https://luarasi-univ.edu.al/ & https://www.bristol.ac.uk/

In the second year, as shown in table 2, there are 7 mandatory curriculum subjects in a law study program at Luarasi university, and 4 mandatory subjects at Bristol university. Meanwhile, the students have to choose 1 subject from a list of 5, and 2 subjects from another list of 6 subjects at Bristol university. So, there are not optional subjects of the law program at Luarasi university, meanwhile, 50% of subjects are optional at Bristol university in the second year.

Table 3: Mandatory and optional curriculum for the third year of study

No	Luarasi University/ Unit name	Mandatory /Optional	Bristol University/ Unit name	Mandatory /Optional
1.	Civil procedure	Mandatory	Final Year Research Project	Mandatory
2.	Penal procedure	Mandatory	Trusts	Mandatory
3.	International public rights	Mandatory	Select 80 credit points by choosing Either (i)one open unit at level I/5 or H/6 OR one second-year Law unit AND three final year units from the list below OR (ii) Choose four final year units from the list below:	
4.	International private rights	Mandatory	Issues in Corporate Governance	Optional
5.	Philosophy of rights	Mandatory	Advanced Family Law	Optional
6.	Legislative technique/Intelectual properties	Mandatory	Information Technology Law	Optional
7.	Law practice	Mandatory	Clinical Legal Studies	Optional
8.	Final exam	Mandatory	Jewish Law	Optional
			Rich Law, Poor Law	
			Commercial Law	
			Law and Policy of the European Union II	Optional
			Banking Law	Optional
			Criminology	Optional
			Insolvency Law	Optional
			Law and Government	Optional
			Legal History	Optional
			Sex, Gender, and Law	Optional
			Employment Law	Optional
			Socio-Legal Studies	Optional
			Environmental Law	Optional
			Human Rights in Law, Politics, and Society	Optional
			Transnational Arbitration	Optional
			Comparative Public Law	Optional
			Reproduction Law, Ethics, and Policy	Optional
			International Dispute Settlement	Optional

	Privacy Law: Theory & Practice	Optional
	Advanced Company Law	Optional
	Law and Race	Optional
	Policing and Police Regulation	Optional
	Equality and Discrimination Law: Theory and Practice	Optional
	Open unit at level I/5 or H/6	Optional

Source: https://luarasi-univ.edu.al/ & https://www.bristol.ac.uk/

In the third year, as shown in table 3, there are 8 mandatory curriculum subjects in a law study program at Luarasi university, and 2 mandatory subjects at Bristol university. Meanwhile, the students have to choose 4 subjects from a list of 28 subjects at Bristol university. So, there are not optional subjects of the law program at Luarasi university, meanwhile, 66.6% of subjects are optional at Bristol university in the third year, and only 33.4% of them are mandatory. Another difference between two law programs is that there is a final exam at Luarasi university and a research project at Bristol University.

Assessment in Law

Assessment components of the law study program at Luarasi university vs Bristol university are as follows.

Table 4: Assessment approach of the law study program at Luarasi university vs Bristol university

Year	Assessment components	Luarasi University %	Bristol University %
1.	Written exams	0.0%	67%
	Coursework	0.0%	33%
	Oral exams	60.0%	0.0%
2.	Written exams	0.0%	83%
	Coursework	0.0%	17%
	Oral exams	100.0%	0.0%
3.	Written exams	0.0%	50%
	Coursework	0.0%	50%
	Oral exams	100.0%	0.0%

The assessment component of the law program at Luarasi university, as shown in Table 4, is dominant compared to other forms; meanwhile, at Bristol university, there are written exams and coursework during the three years of study. The written exams take 67% in the first year, 83% in the second year, and 50% in the third year at Bristol University. On the other hand, the coursework takes 33% in the first year, 17% in the second year, and 50% in the third year. Therefore, there are huge differences in the assessment components of the law program at Luarasi university compared to Bristol university.

Accounting and Finance Curriculum

Accounting and Finance program at Luarasi university aims to prepare economists specialized in the fields of accounting and finance. It aims to prepare students with the basic notions of auditing as well as operating insurance companies.

The undergraduate BSc Accounting & Finance program at the London School of Economics is topically focused on accounting and finance but is fundamentally grounded in other core social science disciplines as well as practically connected to the social sciences through optional courses.

Mandatory and optional curriculum for the first, the second, and the third year of study are as follows.

Table 5: Mandatory and optional curriculum for the first year of study

No	Luarasi University/ Unit name	Mandatory /Optional	London School of Economics/ Unit name	Mandatory /Optional
1.	Microeconomic	Mandatory	Elements of Accounting and Finance	Mandatory
2.	Mathematics I	Mandatory	Economics A or Economics B	Mandatory
3.	Academic writing & Research methods	Mandatory	Basic Quantitative Methods or Quantitative Methods (Mathematics)	Mandatory
4.	Accounting fundamentals	Mandatory	Statistical Methods for the Social Sciences or Quantitative Methods (Statistics)	Mandatory
5.	English	Mandatory	The LSE Course: Understanding the causes of things	Mandatory

6.	Sociology	Mandatory	Introduction to Political Science	Opional
7.	Macroeconomic	Mandatory	Sustainable Development	Opional
8.	History of Economic Philosophies	Mandatory	Law of Obligations	Optional
			Operations Management & Organisational Behaviour and Leadership	Optional
9.	Introduction in business-administration	Mandatory	Logic or Mathematical Methods & Elementary Statistical Theory	Optional
10	Mathematics II	Mandatory		

Source: https://luarasi-univ.edu.al/ & http://www.lse.ac.uk/

In the first year, as shown in table 5, there are 10 mandatory curriculum subjects in the accounting and finance study program at Luarasi university, and 5 mandatory subjects at the London School of Economics. Meanwhile, the students have to choose 1 subject from a list of 5 subjects at the London School of Economics. So, there are no optional subjects in the accounting and finance program at Luarasi university, meanwhile, 16.6% of subjects are optional at the London School of Economics in the first year, and 83.4% of them are mandatory. Furthermore, 4 mandatory subjects contain two options of subjects that students have to choose depending on prior knowledge at the London School of Economics.

Table 6: Mandatory and optional curriculum for the second year of study

No	Luarasi University/ Unit name	Mandatory /Optional	London School of Economics/ Unit name	Mandatory /Optional
1.	Marketing fundamentals	Mandatory	Accounting Theory and Practice	Mandatory
2.	Public finances	Mandatory	Principles of Finance I or Principles of Finance II	Mandatory
3.	Human resources management	Mandatory	Microeconomic Principles I or Microeconomic Principles	Mandatory
4.	Economic policies	Mandatory	An optional unit not listed under 3	Mandatory
5.	Marketing management	Mandatory	The LSE Course: Understanding the causes of things	Mandatory

6.	Business Statistics	Mandatory	Microeconomic Principles I	Opional
7.	Informatics	Mandatory	Macroeconomic Principles	Opional
8.	Money and banks	Mandatory	Introduction to Econometrics	Optional
9.	SME management	Mandatory	Economics in Public Policy	Opional
10	Investements	Mandatory	Business and Economic Performance since 1945: Britain in International Context	Opional
			The Politics of Economic Policy	Optional
			Introduction to Global Development	Optional
			Applied Environmental Economics	Optional
			Law of Business Associations (Company Law)	Optional
			Operational Research Methods	Optional
			Econometrics: Theory and Applications	Optional
			Marketing	Optional
			Statistical Models and Data Analysis	Optional

Source: https://luarasi-univ.edu.al/ & http://www.lse.ac.uk/

In the second year, as shown in table 6, there are 10 mandatory curriculum subjects in the accounting and finance study program at Luarasi university, and 4 mandatory subjects at the London School of Economics. Meanwhile, the students have to choose 2 subjects from a list of 13 subjects in the accounting and finance program at the London School of Economics. So, there are no optional subjects in the accounting and finance program at Luarasi university, meanwhile, 33.3% of subjects are optional at the London School of Economics in the first year, and 66.7% of them are mandatory. Furthermore, 3 mandatory subjects contain two options of subjects that students have to choose at the London School of Economics.

Table 7: Mandatory and optional curriculum for the third year of study

No	Luarasi University/ Unit name	Mandatory /Optional	London School of Economics/ Unit name	Mandatory /Optional
1.	Portfolio management	Mandatory	Contemporary Issues in Financial Reporting & Financial Management and Organisational Control or Auditing, Risk Management and Governance	Mandatory
2.	Markets and financial institutions	Mandatory	Courses from the following (if not already taken under Paper2): Financial Management and Organisational Control Contemporary Issues in Management Accounting Financial Statement Analysis and Valuation Auditing, Risk Management and Governance Accounting, Corporate Responsibility, and Sustainability	Mandatory
3.	Risk management	Mandatory	Corporate Finance, Investments and Financial Markets	Mandatory
4.	Financial and banking rights	Mandatory	An optional unit not listed under 3	Mandatory
5.	Bank management	Mandatory	Financial Management and Organisational Control	Optional
6.	Accounting management	Mandatory	Contemporary Issues in Management Accounting	Optional
7.	International banking and financial standards	Mandatory	Financial Statement Analysis and Valuation	Optional
8.	Financial report analysis/banking monitoring	Mandatory	Auditing, Governance and Risk Management	Optional
9.	Professional practice	Mandatory	Auditing, Risk Management, and Governance	Optional
10	Thesis	Mandatory	Accounting, Corporate Responsibility, and Sustainability	Optional
			Quantitative Finance	Optional

	Sustainable Business and Finance	Optional
	Global Environmental Governance	Optional
	Tax and Tax Avoidance	Optional
	Game Theory	Optional
	International Business Strategy and Emerging Markets	Optional
	Innovation and Technology Management	Optional
	Elementary Data Analytics	Optional

Source: https://luarasi-univ.edu.al/ & http://www.lse.ac.uk/

In the third year, as shown in table 7, there are 10 mandatory curriculum subjects in the accounting and finance study program at Luarasi university, and 3 mandatory subjects at the London School of Economics. Meanwhile, the students have to choose 3 subjects from a list of 14 subjects in the accounting and finance program at the London School of Economics. So, there are no optional subjects in the accounting and finance study program at Luarasi university, meanwhile, 50%% of subjects are optional at the London School of Economics in the third year, and 50% of them are mandatory. Furthermore, 2 mandatory subjects contain two or more options for subjects that students have to choose at the London School of Economics. Another difference between the two universities is that there are about more than double mandatory subjects at Luarasi university compared to the London School of Economics in the three years of study.

Assessment in Accounting and Finance

Assessment components of the accounting and finance study program at Luarasi university vs London School of Economics are as follows.

Table 8: Assessment approach of accounting and finance at Luarasi university vs London School of Economics

Year	Assessment components	Luarasi University %	London School of Economics %
1.	Written exams	70.0%	70%
	Coursework	20.0%	20%

	Class participation	10.0%	10.0%
2.	Written exams	70.0%	60%
	Coursework	20.0%	30%
	Class participation	10.0%	10.0%
3.	Written exams	70.0%	75%
	Coursework	20.0%	25%
	Class participation	10.0%	0.0%

The written exams, coursework, and class participation' assessment components, as shown in table 8, are the same in the accounting and finance study program at Luarasi university as well as at the London School of Economics. The differences are about % taken from components. So, written exams (10% or 5%) in the second and third years, and about coursework (10% or 5%) in the second and third years. Therefore, there are considerable similarities and little differences in the assessment components at Luarasi university compared to the London School of Economics.

Information and Communication Technology Curriculum

Information and Communication Technology program at Luarasi university aims to provide basic knowledge in the field of information technology and innovation, with emphasis on their theoretical and practical formation. This program meets the demands of today's job market, enabling students who will be graduated to work in public and private administration, banking corporations, telecommunications corporations, and many other institutions of this nature at home and abroad.

Information Technology program at London South Bank University will give the students skills and understanding they need to apply for jobs where they analyze, design and implement information technology knowledge and skills in different fields. The program is an invaluable opportunity to apply the acquired knowledge in the lab and lecture halls to the development of real-world systems.

Mandatory and optional curriculum for the first, the second, and the third year of study are as follows.

Table 9: Mandatory and optional curriculum for the first year of study

No	Luarasi University/ Unit name	Mandatory /Optional	London South Bank University /	Mandatory /Optional

			Unit name	
1.	Microeconomic	Mandatory	Fundamentals of Computer Science	Mandatory
2.	Introduction in information technology	Mandatory	Professional Practice	Mandatory
3.	Academic writing and research methods	Mandatory	Discrete Mathematics	Mandatory
4.	Algorithmic and C ++ programming introduction	Mandatory	Requirements Analysis and UCD	Mandatory
5.	Business management	Mandatory	Fundamentals of Software Development	Mandatory
6.	Introduction in information systems management	Mandatory	Software Development	Mandatory
7.	Macroeconomic	Mandatory		
8.	Communication strategies in information technology	Mandatory		
9.	Computer Architecture	Mandatory		
10	Innovations management	Mandatory		
11	English 1			
12	Mathematics 1			

Source: https://luarasi-univ.edu.al/ & https://www.lsbu.ac.uk/

In the first year, as shown in table 9, there are 12 mandatory curriculum subjects in information technology study program at Luarasi university, and 6 mandatory subjects at London South Bank University. Another difference is that microeconomic and macroeconomic are two subjects not related to information technology and innovation program at Luarasi university.

Table 10: Mandatory and optional curriculum for the second year of study

No	Luarasi University/ Unit name	Mandatory /Optional	London South Bank University / Unit name	Mandatory /Optional
1.	Organization of computer systems/operating systems	Mandatory	Analysis and Design	Mandatory
2.	Statistics fundamentals	Mandatory	Big Data and Database Systems	Mandatory
3.	Mathematics 2	Mandatory	Information Systems	Mandatory
4.	Introduction in information systems of business	Mandatory	System Administration	Mandatory
5.	Data structure	Mandatory	Application Development	Mandatory
6.	Object-oriented programming introduction in java	Mandatory	Web Technologies	Mandatory
7.	Applications development-Strategy and management of information systems	Mandatory		
8.	Leadership and ethics in decision-making	Mandatory		

9.	Web design and programming	Mandatory		
10	Security and risks of information systems	Mandatory		
11	Cloud computing- e-business systems			
12	Business English			

Source: https://luarasi-univ.edu.al/ & https://www.lsbu.ac.uk/

In the second year, as shown in table 10, there are 12 mandatory curriculum subjects in information technology study program at Luarasi university, and 6 mandatory subjects at London South Bank University. Therefore, there are double subjects more in the information technology program at Luarasi university than at London South Bank University.

Table 11: Mandatory and optional curriculum for the third year of study

No	Luarasi University/ Unit name	Mandatory /Optional	London South Bank University / Unit name	Mandatory /Optional
1.	Computer network management	Mandatory	Honours Computer Science Project	Mandatory
2.	Introduction to Database Theory	Mandatory	Systems and Cyber Security or Innovation and Enterprise	Mandatory
3.	Business intelligence and data mining	Mandatory	Data Mining and Big Data Analytics or Content Management and Development Frameworks	Mandatory
4.	Design and innovation of digital business	Mandatory	Smart Internet Technologies or AR/VR Technologies	Mandatory
5.	Introduction in software engineering	Mandatory		
6.	Business statistics	Mandatory		
7.	E-commerce and enterprise systems	Mandatory		
8.	Introduction in project management	Mandatory		
9.	Practice and career development	Mandatory		
10	Thesis	Mandatory		

Source: https://luarasi-univ.edu.al/ & https://www.lsbu.ac.uk/

In the third year, as shown in table 11, there are 9 mandatory curriculum subjects in information technology study program at Luarasi university, and 4 mandatory subjects at London South Bank

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University. Furthermore, 3 mandatory subjects contain two or more options for subjects that students have to choose at London South Bank University. Another difference between the two universities is that there are about double mandatory subjects at Luarasi university compared to London South Bank University in the three years of study.

Assessment in Information and Communication Technology

Assessment components of the information technology study program at Luarasi university vs London South Bank University are as follows.

Table 12: Assessment approach of information technology study program at Luarasi university vs London South Bank university

Year	Assessment components	Luarasi University %	London South Bank University %
1.	Written exams	70.0%	0.0%
	Coursework	20.0%	100%
	Class participation	10.0%	0.0%
2.	Written exams	70.0%	40%
	Coursework	20.0%	60%
	Class participation	10.0%	0.0%
3.	Written exams	70.0%	0.0%
	Coursework	20.0%	100.0%
	Class participation	10.0%	0.0%

The written exams, coursework, and class participation as assessment components take different % at Luarasi university compared to London South Bank University. The class participation takes 10% at Luarasi university only. The written exams take of 70%, the course works 20%, and class participation 10% at Luarasi university during three years of study. The written exams take 40% in the second year only at London South Bank University, meanwhile, the coursework takes 100% in the first and the third year of study. Therefore, there are considerable differences and little similarities about the assessment components at Luarasi university compared to London South Bank University.

Conclusions and implications

The study aimed to compare the curriculum of law, finance, and ICT at Luarasi university with three UK universities.

It is found that the subjects of law program in the first year are mandatory in Luarasi and Bristol university. There are not optional subjects of the law program at Luarasi university, meanwhile, 50% of subjects are optional in the second year, and 66.6% of subjects in the third year at Bristol University. It is found that there is a final exam at Luarasi university and a research project at Bristol University in the third year. The study found that the assessment component of the law program at Luarasi university is a dominant oral exam; meanwhile, at Bristol university, there are written exams (67%, 83%, 50%) and coursework (33%, 17%, 50%) during the three years of study. Therefore, the law faculty at Luarasi university should consider optional subjects as part of the curriculum, and the written exams and coursework as part of the assessment.

The study found that are not optional subjects in the accounting and finance program at Luarasi university, meanwhile, 16.6% of subjects in the first year, 33.3% of subjects in the second year, and 50% of subjects in the third year are optional at London School of Economics. It is found that there are about more than double mandatory subjects at Luarasi university compared to the London School of Economics in the three years of study. Furthermore, 3 mandatory subjects in the second year and 2 mandatory subjects in the third year contain two options of subjects that students have to choose at the London School of Economics. The written exams, coursework, and class participation 'assessment components are the same in the accounting and finance study program at Luarasi university as well as at the London School of Economics, but there are little differences about %. Therefore, the economic faculty of Luarasi university should consider optional subjects as part of the curriculum.

The study revealed that there are about double mandatory subjects at Luarasi university compared to London South Bank University in the three years of study. Furthermore, 3 mandatory subjects contain two or more options for subjects that students have to choose at London South Bank University. The written exams, coursework, and class participation as assessment components take different % at Luarasi university compared to London South Bank University. Therefore, the information technology and innovation faculty at Luarasi university should consider the number of subjects in the curriculum, as well as the assessment components.

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Paper Title - To what extend high education influence Political Participation

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Abstract

Education is knowledge gain. It has great importance because it develops the perspective of looking at life. It shapes our opinions, thus build our attitudes towards different things we are facing every day. Gaining new information of a surrounding world leads a person to take a particular action. We firmly believe that educated people know how much it is crucial to participate in politics. Politics is everywhere; it shapes our lives and opportunities and creates the atmosphere we are living in. Usually, people think their voice is not heard, their vote is meaningless and can not change anything, and because of that, they do not even fulfill their civic duty and choose not to vote. H1: A higher level of education influences more participation in politics. In this paper, we also tested three other hypotheses with the control variables (GDP, Unemployment rate, and Literacy rate). When it comes to methodology, the study type of this research is small N, and it is X-centric research. The sample size is 27 members-states of the European Union + Great Britain (28 cases) for the selected period of 2014. The research is conducted in the statistical program RStudio. Through regression analysis, we explained whether there is a connection between independent and control variables with the dependent variable, which is, in this case, Political Participation. The concept that was analyzed, since political participation covers more activities, the paper will have a focus on the first and primary activity, which is voting on elections. European Parliament Elections from 2014 are examined, and the voter turnout from 28 European Union member states (in that time) is used. The obtained results showed that only the independent variable, high education, is statistically significant, which tells us that there is a relationship between high education and political participation, and this relationship is negative. Three control variables, according to results, showed that there is not a connection between each of them with the dependent variable.

Keywords: *education, gross-domestic-product, unemployment, elections*

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Introduction

The political participation of all citizens lies in the heart of a democratic system. It is important to have equality in the decision-making process and high voter turnout because the right to choose and be chosen is one of the fundamental human liberties in the democratic state, without discrimination based on gender, race, religion, etc.

On the other hand, education is a human right. Still, in the research question, I focused on a high level of education, which means that I am referring to the knowledge gained at Universities and Institutes. Even education is a human right; unfortunately, many people can afford this kind of education, usually because of economic reasons.

Why I connected education to political participation at all? Usually, people think their voice has no meaning, their vote can not change anything, and because of that, they do not even fulfill their civic duty and choose not to vote. Also, many people are not interested in politics, and their job is not related to it directly, so they think that it is useless to participate at all.

My argument is that people with higher education will understand better the importance of their role in the decision-making process. Knowing your rights, and what is more critical, knowing your power, having more and concrete information about the political situation in your country encourages you to take action. Most countries are democracies nowadays, and people have their right to choose their representatives, parties with the ideology they support, and thus create a better environment for their lives. It is not `just a vote,` but a way of changing things we do not like and showing our trust and support of candidates we believe are the best to express people's wishes and requests. The politics in the country do not affect just politicians, political scientists, and people interested in politics, but all inhabitants. As the name suggests, political participation means that a person participates in the political process by making his or her opinions and beliefs known. In the social sciences, the term 'political participation' is often used to describe an action taken by a citizen to influence a political issue. (White, 2016).

This paper will be divided into two parts, theoretical and empirical. The theoretical part consists of scholarly literature that supports the central question of this research and the empirical part by presenting the data through a quantitative approach in statistical program R.

Literature Review

Political participation involves a variety of political activities in which citizens are involved. Usually, when we hear political participation, we think about elections and voting because this type of participation is considered a civic duty. Thus we can say that it is the lowest level of involvement but yet the most important. Varying levels of involvement overtime allowed all citizens to express their will, fight for their rights, and participate. There are so many opportunities for participation because most of today's states are based on democracy and the rule of law, which allows and gives space to all people to vote and be elected.

It is generally assumed that political participation is rational. Individuals engage in political activity to pursue particular goals and decide to participate when the benefits of such action outweigh the costs. (Leighley, 1995)

If we take this assumption as correct, then what the level of education has to do with political participation? Because if we believe that political participation is rational, people can be reasonable even without higher education because maybe they didn't have the opportunity to go to Universities or Institutes, and a reason for that can be economical, for instance. Higher education is not obligatory, and unfortunately, many people don't have a chance to afford it, so they start to work at an early age to make money and survive. On this issue, which connects and shows the causal link between education and political participation, studies of political behavior are focused. In most studies of political behavior, it is found that individuals with higher education participate to a larger extent in political activities than individuals with lower education. (Persson, 2013)

Socially privileged citizens vote more, and this argument goes in line with my hypothesis, the socially elite are those who can afford better education and thus high education as well, those with better economic status, and so on. This pattern is known as unequal turnout (Lijphart, 1997). The research conducted in the United States of America has shown that political parties mobilize upper-class individuals. (Rosenstone and Hansen, 1993; Abramson and Claggett, 2001; Brady et al., 1999; Wielhouwer, 2003). But, since in this paper the focus is on voting, not directly on political parties, we should pay attention more to the authors such as Downs (1957, 273–274), who

emphasizes that "the costs and benefits of voting are central to understanding why the socially disadvantaged often fail to vote; they face more difficulties gathering information about politics and voting, and they are typically less interested and knowledgeable about politics, thereby often producing participation gaps. "

Education increases civic skills and, thus, political knowledge, which has the causal effect triggering participation. People with higher education will see the benefits of political participation. Still, higher education will provide them with a better ability to speak and write by developing skills and knowledge of how to come in an organizational setting. With more formal education comes a more substantial interest in politics, a more significant concern with elections, greater confidence in playing one's role as a citizen, and a more profound commitment to the norm of being a good citizen. (Lewis-Beck et al., 2008). This relationship between education and political participation, according to research on political behavior, is the most well-established. In theory, we have three models for such a connection between education and political participation. Two of those models consider education as a proxy for other factors; those two models are the pre-adult socialization model and the relative education model, while the third model, called the absolute education model, as the name suggests, sees this phenomenon directly related. According to the absolute education model, this relationship is strong and direct because schools have positive effects on the development of the cognitive ability of individuals, which affects participation.

Education increases belief in individuals that their vote is essential and can influence the political situation and what the government does, which is called external efficiency. It thought that an individual as a voter could play a role in political activities is internal efficacy. Educated citizens experience better economic outcomes, are more interested in politics, and are more supportive of democracy, but are also more likely to criticize the government and support opposition parties. (Croke et al., 2016). Even when this is the case, for us, it is essential to know that citizens do express their thought, feelings, and beliefs. Dissatisfaction may be a motivation in this case, but it pushes people to react and to try to change something, which directly leads to political participation. As I mentioned above, political participation is not just voting an going to the pools; it can be protesting against some new law, calling representatives, speaking about things which we are not a fan of, and so many other things which creates political atmosphere and affects the political situation in one country.

Participation is essential for holding governments to account and influencing incumbents to

implement the policies that citizens demand. (Croke et al., 2016). Looking at the motives of participation and trying to answer why do people choose to participate or not, one of the predictors, according to Putnam (1995, 68), is education. He emphasizes that education "is the best individual-level predictor of participation."

Today, most countries have a democratic system, and the political participation of citizens is the core concept of democracy. Back in the 1970s and 1980s, when the "Third Wave of Democratization "was happening, Huntington (1991) claimed that education was the factor that contributed the most in this process. People at this time began to become aware, to demand rights, to fight for freedom with mass demonstrations, to ask questions and seek answers. With awareness came interests for participation and realization of the benefits of political engagement. All this has led to the desire of people to be educated, and those who have succeeded in that I believe have realized that democracy is the only way through which they can get involved in shaping the politics of their community and state and that education is the only way they can contribute to its well-being without leaving room for only selected elites to rule and dictate in which direction the political stream will go.

In sum, according to the theory, we can see that there are significant claims and strong arguments that education is a factor that affects political participation. This factor can have a positive/negative effect on participation. In this research, where the core point is high education, and according to studies done on political behavior, hight education can potentially have a positive effect and increase political participation.

Based on these theoretical assumptions, one main research question and hypothesis can be proposed as follows:

Research Question: To what extend higher education influence political participation?

H1: A higher level of education influences more participation in politics.

The 'causal chain' which presents the argument of this research

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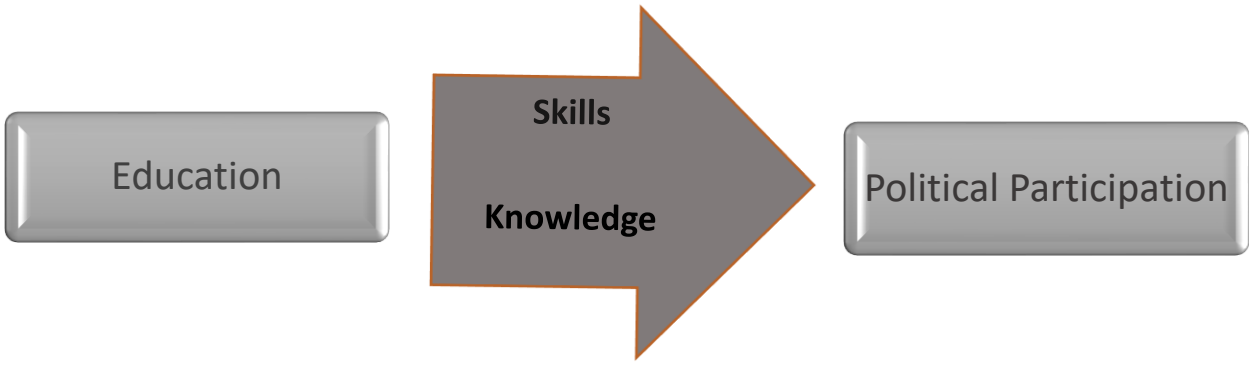


Figure 1. Causal Chain

Concept Specification

Concept specification is needed because theories or hypotheses are focused on a relationship between theoretical terms. These academic terms are not directly empirically observable. That's why a specific theoretical term concept specification as a part between theory and operationalization helps define what is meant. The definition that would be the most applicable and describes the aim of the paper is following: "The term (political participation) refers to a wide range of activities, including voting in elections, donating time or money to political campaigns, running for office, writing petitions, boycotting, organizing in unions, demonstrating, carrying out illegal sit-ins or occupations, blockades, and even physical assault on the forces of order. Democracy does not work without the (voluntary and legal) political participation of its citizens. "(Kitschelt and Rehm, 2016).

In this paper, I focused on the first and primary activity of political participation, which is voting on elections. This term, as we can see, covers a range of political movements. Still, before we can investigate the higher levels of participation, I think we should focus on this one, which is considered a civic duty and thus try to explain what (de)motivates people to take action.

Methodology (Research Design and Operationalization)

The study type of this paper is small N, and it is X-centric research. European Union countries will be taken as a sample and small number of cases will be examined in depth using a deliberate

selection as well as examined in multivariate linear regression analysis. The core point is to examine how the independent variable (high education) affects the dependent variable (political participation). When it comes to External validity, even not problematic in most of the studies, because it tells us that obtained results in the research paper can be generalizable and replicable, here can be a problem. As it was mentioned above, the number of observations in this paper is 28 (Member states of European Union + Great Britan) so, the obtained results are valid only at the European level because of both the hypothesis and the database concern only the European system. At the same time, for other regions, this is not applicable. As political participation is a complex concept containing various elements and implies a large number of activities, while in the countries of the world, the political situation, regimes, and opportunities for participation are different, it is problematic that one research can be generalized and applicable to all countries. Internal validity is related to a degree of confidence that the causal relationship (high education – political participation) tested in a paper is direct and not affected by other variables. The rival factors (gender or age, for example) that could also explain the outcome of the dependent variable should not have a stronger causal relationship to conclude that this causal relationship that is tested is trustworthy.

As mentioned, the data for variables will be presented for 27 members-states of the European Union + Great Britain (28 cases) for the selected period of 2014. The primary dependent variable is labeled as political participation (PP_2014). I got the data from EUROPARL (https://www.europarl.europa.eu/elections2014-results/en/election-results-2014.html?fbclid=IwAR286WTlswdZdIHAJcUvYEu0Xjg0wRmPRQJLWsQ3EAvj1wQDCa_f12y5bPA). The Political Participation will be measured according to voter turnout on European Parliament Elections, from each member state in that period.

The core independent/test variable in this research is High Education (HE_2014), which refers to the education gained in Universities, Institutes, or Academies. The data from UIS.UNESCO site (http://uis.unesco.org/en/country/at). We wanted to see whether, in countries with more highly educated people, citizens participate more in politics by going to polls and voting. For this variable, we took the 2014 year because we thought it is the best option and gives the objective view on the situation exactly when the previous elections in the EP happened.

The first control variable (GDP_2014) is an economic variable, and it is based on the

World Bank data(https://databank.worldbank.org/reports.aspx?source=2&series=NY.GDP.MKTP.CD&country) I took Gross-Domestic product as a control variable because I assume that there is a positive relationship between the higher level of GDP, the higher level of Political Participation. Gross domestic product is the market amount of all final goods and services of a country in a given year. The currency in which GDP is presented internationally is in US dollars ($). Therefore, we can conclude that the larger the currency, the richer the state, and thus its citizens live better and are more satisfied with the political situation.

The second control variable in the research paper is the Unemployment rate (UNE_2014), which is, as well, an economic variable based on the World Bank data and presents the unemployment in total (% of the total labor force) (https://databank.worldbank.org/reports.aspx?source=2&series=NY.GDP.MKTP.CD&country=) We took the Unemployment rate as my control variable because I think this variable can be a good indicator of how the citizens are satisfied with the political situation in their country. If the unemployment rate is lower, people will participate more because they will be happy with the opportunities and quality of life in their country. Therefore, they will want to contribute and support by voting and getting involved in political processes as much as they can. When the level of unemployment in the country is high, the citizens of that country will worry more about how to eat, how to survive, how to afford an everyday life for their family, and they will be occupied with looking for work. These existential needs will make them dissatisfied with the system and politics in the country, and they will probably decide to abstain from voting and to engage in other political activities.

And the last control variable is the Literacy rate (LR_2014), which is available at the database of UIS.UNESCO site (http://uis.unesco.org/en/country/at) the literacy is measured by the percentage of people who get the chance to finish their primary school. This control variable is useful for this research paper immensely because, as we saw in the theoretical framework, the skills of good writing and speaking are contributing to political participation. Of course, when we go to the polls to vote, we must know to read, at least, to understand how to vote and whom to vote. This is the very first level of education, and in many countries, it is obligatory. I wanted to see does this rate, even if it is in almost all counties, more than 90%, has any effect on political participation.

Graphs, figures, and tables (Empirical Research)

The findings that follow in this section demonstrate the highpoint of the empirical research in this paper.

Descriptive Analysis

Table 1: Central Tendencies of DV, IV, and CV

Central tendency operation	**Political Participation**	**High Education**	**Gross- Domestic Product**	**Unemployment Rate**	**Literacy Rate**
Median	41.71	44.24	2.333	8.8265	98.075
Mean	43.36	42.59	6.676	10.473	3.097
Mode	Numeric	Numeric	Numeric	Numeric	Numeric
Standard deviation	18.40	11.09	1.0377	5.3188	3.0974
Range	13.05 89.64	8.50 - 58.34	1.1303729347 3.883920	4.981 - 26.491	87.19 100.87
Min	13.05	8.50	1.1303729347	4.981	87.19
Max	89.64	58.34	3.883920	26.491	100.87
1st Q.	31.89	36.89	5.744e+10	6.749	97.57
3rd Q.	51.41	49.92	6.677e+11	12.063	99.22
Kurtosis	0.300	1.071204	2.226635	1.9588	5.040
Skewness	0.819	-0.9081675	1.854703	1.5495	-2.331

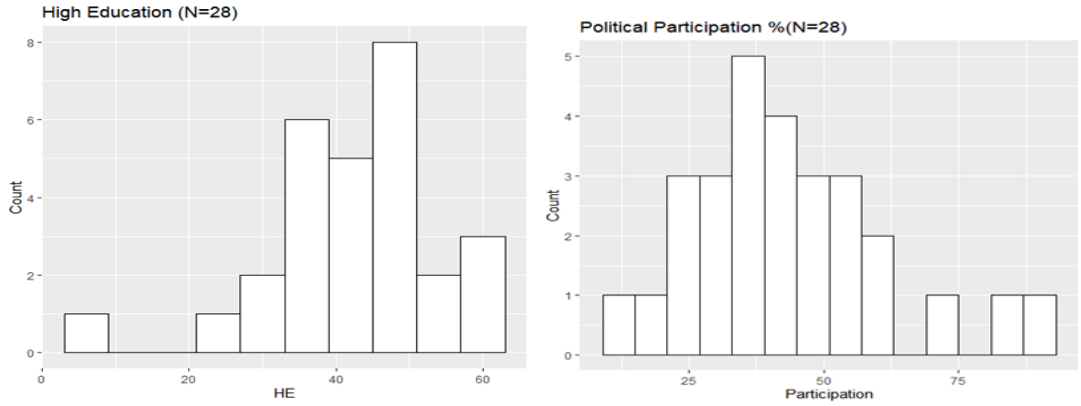
Table 1 specifies the Central Tendencies values for each variable, Independent, Dependent, and three Control variables. Regarding Political Participation, which is the dependent variable in my research paper, the median is 41.71, which tells us that 50% of the cases are bellow this number

(41.71), and 50% are above this value. The mean refers that average participation in politics according to voter turnout on the EP elections of the 28 Member states in the 2014 period of time is 43%, which shows the lack of participation od the citizens from the Member States. The standard deviation is 18.40%, which means that 81.6% of all cases are between the standard deviation above and the standard deviation below the mean.

The skewness is positive 0.819, which means that the distribution is left-sided and right-skewed. The kurtosis is also positive 0.30, which means that the distribution is not flat. The Range is from 13.05 to 89, 64%, which is good.

If we look at the number of high education across EU countries, the median is 44,24%, while the average percentage of increased knowledge is slightly lower and about 42,59%. The standard deviations are 11,09%, which means that 88.1% lay between the standard deviation above and the standard deviation below the mean. The skewness is negative -0.90, which indicates that the distribution is right-sided and flat.

Histograms of the Independent (High Education) and Dependent Variables (Political Participation)



Bivariate and Multivariate analysis

	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
(Intercept)	75.89***	46.22***	45.54***	169.97	57.28
	(12.70)	(4.11)	(7.93)	(111.02)	(112.56)
HE	-0.76**				-0.79**
	(0.29)				(0.34)

GDP		-0.00			-0.00
		(0.00)			(0.00)
UNE			-0.21		-0.11
			(0.68)		(0.62)
LR				-1.30	0.24
				(1.14)	(1.22)
R^2	0.21	0.06	0.00	0.05	0.27
Adj. R^2	0.18	0.02	-0.03	0.01	0.14
Num. obs.	28	28	28	28	28
RMSE	16.65	18.21	18.72	18.30	17.03

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Statistical models

Model 1

For every increase in high education, political participation decrease by 0.76. Political participation would be 12.70 (interception coefficient), even if the high education is 0. The coefficient for high education is 0,76 and. It is 95 % statistically significant. We reject the null hypothesis because there is a relationship between high education political participation.

The standard error for political participation is 12.70, while the standard error for high education is 0.29.

When we look at the R2, it shows us that for this model, 21% of the linear variability observed in terms of political participation can be explained by the high education. Adjusted R2 shows that the explanatory factor is 18%.

Root MSE presents the standard deviation of the error term and the square root of the Mean Square Residual Error (RMSE), and in this case, it is 16. 65, which means that there are cases that deviate a lot from the regression line. The number of observations is 28 (28 EU countries).

In sum, according to model one, those results tell us that in every increase unit in X, the Y decreases for 0,76, which in this case means that the higher education, the less political participation.

Those results are not in line with my hypothesis. (The higher education, the more political participation)

Model 2

In this model, the researcher wanted to see the relationship between Gross-domestic product (GDP) and political participation.

Interception for political participation is 46,22, with a standard error of 4,11. This tells us that political participation would be 46,22, even if the Gross-domestic product (GDP) is 0. Also, for every unit increase in GDP, political participation does not increase or decrease, because the result is -0,00. Which can tell us that there is no effect one on another, and the relationship does not exist at all. In this model, we accept the null hypothesis because there is no relationship between GDP and Political Participation, and the GDP is not statistically significant. . We can conclude that my results are not in line with my assumption. (As higher the GDP, as higher the political participation).

R2 tells us that only 6% of cases of the dependent variable can be explained by GDP, which, in this case, is my control variable.

Adjusted R2 is 0,02, which means that our explanatory factor is only 2%.

The number of observations is 28 (28 EU countries). Root MSE presents the standard deviation of the error term and the square root the Mean Square Residual Error (RMSE), and in this case, it is 18.21, and we can conclude that there are cases which deviate a lot from the regression line, even more than in model 1.

Model 3

In this model, the researcher wanted to see whether there is a relationship between the unemployment rate (UNE) and political participation.

This model tells us that for every unit increase in the unemployment rate, political participation decreases for 0,21 with the standard error of 0,68. The unemployment rate in this model is not statistically significant. That's why we are falling to reject the null hypothesis and conclude that there is no relationship between the unemployment rate and political participation.

Political participation would be 45,54, even if the unemployment rate equals to 0.

R2 tells us that we can explain 0.00% of cases of political participation through the unemployment rate, which means that unemployment does not explain the phenomenon of political participation. The adjusted R2 value is -0,03, which means that the explanatory factor is -3%.

RMSE in this model is, again, huge, and the value is 18,72. Some cases deviate a lot from the regression line, even more than models 1 and 2.

Model 4

In the fourth model, the researcher wanted to see the relationship between literacy rate and political participation. The results showed that for every unit increase of literacy rate, political participation decrease for 1,30 units. Political participation would be 169, 9, even if the literacy rate is 0.

The literacy rate standard error is 1,14, and in this model, it is not statistically significant. In this case, we fail to reject the null hypothesis, which indicates that our sample did not provide sufficient evidence to conclude that the effect exists.

The R2, in this case, is 5%, which means that we can only explain 5% of political participation through literacy rate. The adjusted R2 value is 0,01, which means that the explanatory factor is 1%.

RMSE is 18,30, almost the same as in the previous two models, and we can conclude that there are cases that hugely deviate from the regression line in the fourth model.

We can notice that the relationship between our control variable literacy rate and dependent variable political participation is negative and not in line with my assumption: the higher the literacy rate, the higher the political participation.

Model 5

In the last model, the researcher had taken all the variables together. I wanted to see the influence of the independent variable, high education, and the three control variables GDP, UNE, and LP on the dependent variable, political participation.

When all the models are taken together, the model power kind of decreases because Adjusted R2 is lower than in the first model. When it comes to the significance, there is no difference in the significance of the other three variables, but the independent variable still holds its significance.

The results tell us that for every unit increase in high education, political participation will decrease by 0,79. The high education with the standard error of 0,34 is statistically significant in this model, which means that we reject the null hypothesis.

Secondly, for every unit increase in GDP, political participation will not increase or decrease. There is no effect, and the value is 0,00. GDP with the standard error 0,00 is not statistically significant, and thus we are failing to reject the null hypothesis.

Thirdly, for every unit increase of UNE, political participation will decrease for 0,11 units. The unemployment rate is not statistically significant, and thus we are failing to reject the null hypothesis.

Moreover, for every unit increase in literacy rate, political participation increases for 0,24 units. The literacy rate in this model surprised us; the coefficient has increased in comparison to model four. However, the literacy rate in this model has a standard error of 1,22 and is not statistically significant, which is why, again, we are failing to reject the null hypothesis.

Adjusted R2 is 0.14, and our explanatory factor is only 14%.

Our RMSE on 28 observed countries (Member States of EU + Great Britain), in multivariate analysis, is equal to 17,03, which is not that good because it shows that some cases hugely deviate from the regression line.

In sum, after doing the regression, we can see that only the independent variable, which is high education, affects political participation, and only this variable is statistically significant. Even this result is not in-line with the researcher's assumption, and according to the obtained results, we see that when high education is increasing, political participation is decreasing.

The second and the third variables, which are control variables, Gross Domestic Product (GDP) and Unemployment rate (UNE), does not affect, as well as the third, literacy rate (LP). That is why we are not able to reject the null hypothesis and can conclude that those three control variables do not affect Political Participation, the dependent variable in this case.

Conclusion

After the obtained results, we can see that the main hypothesis of the study even theoreticallystrong with such great arguments from various political scientists who investigated the connection between education and political participation in the sphere of political behavior. In my research

paper, where the main hypothesis was that a higher level of education leads to more political participation, the opposite has been shown, so we can conclude that higher education leads to less political participation (in this case). We can only attribute this to the fact that perhaps people who are more educated are more critical than those who are not and find more objections in the political system, so they decide to abstain from voting. Yet, although this research show this kind of results, we must not forget that the hypothesis was tested only in 28 states, and I took one year as a sample, 2014. Objectively, it is possible that if a broader range of years were taken as well as included more states, this hypothesis would prove to be correct. What particularly surprised me was that no control variable was demonstrated to affect my dependent variable, political participation. None of these variables proved to be statistically significant, which means that there is no relationship between GDP and Political Participation, Unemployment rate and Political Participation, and Literacy Rate and Political Participation in this case. It is only in the fifth model in the table that the literacy rate changes drastically, but even then, it is not statistically significant, which does not allow us to reject the null hypothesis. Also, many cases drastically deviate from the regression line in each model. In the end, the most important thing is to test your assumptions, because, without that, we would not be able to say with certainty whether a causal relationship exists. Even after testing, the difficulty of covering multiple indicators, variables, and countries could not claim that the result obtained was 100% objective and official.

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Model of Organization of Dual Education System- Examples of Study Design and Technology in Woodworking

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Abstract

The development of new study programs as well as the re-engineering of existing ones is a complex and multidisciplinary process implemented by higher education organizations. New study programs should be an expression of real societal needs and should satisfy each of the three university missions. Unfortunately, current practice in Bosnia and Herzegovina and the countries of the region is often denied because the number of study departments far exceeds the opportunities of higher education (in human, financial, infrastructure and other key elements) and does not contribute to development in any segment. The paper discusses the issues of the dual system of study, which today is much discussed as the key to solutions to the accumulated problems of the unemployed, the greater efficiency of the economy and the improvement of the general ambience of the business of the BiH economy. A study program for Design and Technology in Woodcutting was presented, introduced this year and which is conceptualized on the basis of dual education.

Key words: *dual education, vocational education, business, university, networking, synergy*

1. Introduction

A large number of study programs in BiH are designed and developed to complement the wishes of employees to have a norm in the teaching process and a secure source of livelihood. The best

indicator of that is the army of the unemployed at the labor offices with the prospect of never finding employment in the field for which they were educated. Unfortunately, poor and incorrectly created learning outcomes do not enable employment in the global labor market either which today is another indicator of the success of the higher education institution. It is necessary that a certain number of study programs must move towards greater connection with the real economic sector. In many developed countries (Germany, Austria, Denmark, Switzerland, Canada and others.) models of dual education through close connection faculty -companies have been around for many years and give great results. More than 50% of the engineers who now run the German or Austrian economy have completed this type of study. Of course, the dual model is not only adaptable only to the engineering sciences. There are also economy, tourism, health and medicine and other technologies. After all, the study of health care with almost 50% of practice performed in clinics is a classic European example of regulating the profession with a defined minimum of practice in a four-year schooling. The creation and development of new study programs should represent a clear anticipation of economic and business flows, regional and global trends and trends on the one hand, with a full view of internal conditions and performance on the other hand (human resources, equipment, financial assumptions, etc.).

2. Education tailored to the economy

It is clear that for a serious approach to dual education there needs to be a national strategy for building a higher education system. Many will say that there should be a consensus on that, but it is even clearer that consensus cannot be reached in much simpler things than the education sector. Is it therefore possible to reform education if the legal framework is as it is (problematic to say the least), if there is a great disinterest of domestic economic entities and even greater maladaptation of people and the labor market, within which obtaining a degree is a "key activity", and then waiting for the state to provide a job "philosophy of life". How to observe in this context, for example, German or the Swiss concept of dual higher education? How to interpret from our perspective very relevant data on the structure of engineers in Germany working in the SIEMENS concern? According to available data from SIEMENS, the need for professional knowledge is predominantly becoming the premise of the work of engineers in production, installation and servicing (about 80-90%), engineering, sales and marketing (50-75%), and are less important for product design and development (30-50%) and research and development (10-20%). It is a very

important fact that in such a very sophisticated company, as many as 59% are professional engineers mostly from the dual education sector. This clearly indicates that this percentage is significantly higher in the SME sector and companies that are not development leaders. With very high accuracy (similarity) the mentioned data can be copied to numerous other engineering studies, ie production occupations (eg agri-food technologies, mining, energy, etc.), and with great coincidence they can be found in other service services or the service sector. After all, the best example of this is studies in health sciences as a regulated profession in the EU, where it is clearly specified that during the program, students must spend at least 1400 hours of teaching (about 50%) in practice in some of the health institutions. All this gives a good overview and recommendation of how to balance the curriculum and create meaningful assumptions for the expected output competencies, which the economic sector will really need at the present moment, as well as for the future period for which the education is being done. It should be emphasized that the concept of dual education has not been applied in Germany for as long as it is thought from a layman's point of view. Although Germany has a long tradition of universities of applied sciences, the first dual education programs were launched in 1974 in Stuttgart. (Bernsakademie Mannheim and Stuttart). Positive implementation experiences resulted in the enactment of the Dual Education Act in 1982. Today, about 50 universities in Germany offer this model of practice - oriented education with more than 900 study programs, more than 60,000 enrolled students and more than 40,000 partner companies participating in the implementation of study programs. In the Swiss model of dual education, the focus of education is on the acquisition of professional competencies which mainly requires the labor market. This direct link to the labor market is certainly the main reason why Switzerland has the lowest ratio of the unemployed to the total youth population in Europe. The Swiss model of dual education is managed by the Confederation, cantons and professional organizations (associations). They work together to maintain a high level of quality and ensure that the training model in companies works best in any case. The partnership is regulated by a set of laws prescribed by federal and cantonal laws for vocational education and training. In case of an obvious lack in certain areas of work, the State Secretariat for Education, Research and Innovation (SERI) reacts and can initiate practice-oriented studies at Swiss universities of applied sciences.

3. Experiences of the University of Zenica in the dual education segment

3.1. Study Design and technologies in wood processing - the need for vocational study

The Center for Innovation and Entrepreneurship of the University of Zenica (CIP UNZE) is a sub - organizational unit of UNZE and has been working diligently for almost ten years on the development of student and teacher entrepreneurship, transformation of the university from lecturer to entrepreneurial, better connection of faculty with economy. In this sense, the CIP has recognized the importance of a dual system of vocational education. Through the internationalization of its project activities, CIP UNZE clearly accepted the importance of cooperation with respectable reference institutions in the EU and the world and in that sense was a professional service to the Faculty of Mechanical Engineering UNZE in the development of the first vocational study based on dual model - study department Design and Technology in wood processing. For many years, there has been a lack of highly qualified staff in BiH from the field of wood processing that would be able to develop this sector on a new basis as it is developing in the world today (higher level of product finalization, emphasis on finishing and design, advantage of natural materials in the production of which BiH abounds, more modern design, design and production of energy efficient houses, design and production of modern interiors, modern concepts of furniture, floors, combining modern and ethno / retro motifs, work on custom-made furniture and giving individual solutions, etc.). Modern processing technologies based on CAD and CNC, the global trend of shortening the time from development to product placement, new design solutions, are just some of the determinants of today's furniture industry and wood processing sector in the world. Numerous studies have shown that BiH has more than a solid basis for development of this production when it comes to resources. The raw material base is there and it should be adequately processed in order to leave as little as possible as a raw material basis for the industries of other countries. However, in all these studies (strategies, SWOT analyzes, etc.) there is a lack of staff with the required competencies for today's wood processing and production of a diverse range of products which, in addition to professional competencies in the field of wood processing, also includes generic competencies (active knowledge of foreign languages, ICT technologies, teamwork, multidisciplinary knowledge, etc.). The Faculty of Mechanical Engineering of UNZE is an organization that recognizes these problems and wants to solve and improve them, in accordance with its mission and vision of development, both for its work and for the general well-being of the community. Analyzes of business systems and surveys clearly indicate that there is a lack of wood processing engineers in business systems, which once again

emphasizes the need to establish this study at UNZE, which is in line with all strategic determinants of UNZE development, as well as ZDK, who is the founder of UNZE.

3.2. Analysis in business entities in BiH - opinions of employers

For the purpose of a comprehensive field analysis of business systems from BiH in the wood processing sector (furniture, parquet, prefabricated houses, interior design and furnishing industry, etc.) the CIP UNZE project team visited more than 30 representative systems. Interviews with management were conducted there and appropriate survey questionnaires were completed. This includes the SME sector and large business systems, which export most of their current production, they have very modern machine parks and strive to satisfy the picky tastes of both domestic and foreign customers.

Table 1. UNZE project

No.	Company	Total employees	Number of engineers	Plan for new engineers	The rest
1.	Inside Sarajevo	80	4	3	SK
2.	Secom Visoko	160	5	3	ZDK
3.	Đuzel Žepče	100	3	5	ZDK
4.	Nansi Žepče	73	1	2	ZDK
5.	Prograd Holz Žepče	64	1	1	ZDK
6.	TMK Zavidovići	200	15	5	ZDK
7.	Prevent Interior Visoko	124	9	4	ZDK
8.	Tamex Busovača	430	6	3	SBK
9.	IGM Visoko	20	1	1	ZDK
10.	Budo Export Žepče	109	0	0	ZDK
11.	Process Tešanj	31	0	2	ZDK
12.	Artisan	143	5	3	ZDK
13.	Economic Vitez	70	3	3	SBK
14.	Lookwood NordEnt Tešanj	47	0	0	ZDK
15.	MS Wood SAR/Fojnica	320	9	10	SBK
16.	PERO Zenica	70	5	2	ZDK

17.	Interfob Consulting Banja Luka	67	8	2	RS
18.	Standard Prnjavor	370	6	4	RS
19.	Ammaro Tuzla	8	2	2	TK
20.	Milinković d.o.o. Banja Luka	25	3	2	RS
21.	Nirbo Jajce-Vinac	30	0	1	SBK
22.	Normativ Banja Luka	1	1	1	RS
23.	Standard Furniture Ćuprija	240	4	4	Srbija
24.	Targer Sarajevo	14	4	1	SK
25.	Ingrat Gračanica	100	9	0	TK
26.	Lignacon, Teslić	97	4	2	RS
27.	Promo Donji Vakuf	200	9	3	SBK
28.	Productcoop, Laktaši	11	1	1	RS
29.	Sarajevoinvest doo Pale	18	0	0	ZDK
30.	LIND laboratorija, TP Zenica	12	4	3	ZDK

3.2.1. What did employers define as expected competencies / knowledge / skills of engineers?

- Knowledge of wood processing technology (solid wood, chipboard, plywood, veneer), IT knowledge (SolidWorks, Office, Outlook), foreign language (English and / or German), production techniques / philosophies (LEAN, JIT, kanban, 5S, Six Sigma, SMED, TOC, Value Stream Mapping ...), management systems (quality, environment, occupational safety, quality control), production planning, system design, productivity (measurement and improvement methods), quality tools, cost management, project management, communication, knowledge of materials in furniture production (basic and eg sponges, textiles, leather, skis, varnishes, paints), making a complete product calculation
- Knowledge of CNC technologies
- Knowledge of working on drawing and design programs (AutoCad, SolidWorks, ArchiCad, SolidCAD ...)
- Active knowledge of English (often German)
- Teamwork, responsibility, proactivity

- Respecting the company's strategy
- Development of new technologies and products
- Readiness for everyday learning, acceptance of the corporate concept, training, active participation in solving project tasks, adapting to the concept of the company's work, flexibility in work.
- Understanding of technological processes in the wood industry that will enable continuous work on optimizing the production process and increasing productivity
- Multidisciplinarity (eg understanding basic economic concepts with engineering competencies)
- Analytical skills (required for optimization, productivity analysis, bottleneck detection, production planning and scheduling, determining the need for investment in new machines and / or technologies
- Practical knowledge of the operation of machines in the production process, as well as knowledge, ie rapid mastery of knowledge about the complete production - technological process
- Production management and knowledge in the field of manufacturing technology, time technology, surface treatment, hydrothermal treatment, construction
- Knowledge of wood and board materials markets
- Making economic calculations and sales skills
- Practical knowledge should be provided by people from practice, ie companies, or experienced experts from the field, and not by professors and lecturers in charge of theory and most of whom have never worked in practice (attitude of a consulting company)

3.2.2. What did the employers suggest to the staff of MF UNZE in preparation for the organization of DTD studies

- Modernize and revise curricula (throw out too much theory that is not needed)
- Manage and take over curricula from respectable institutions from Europe.
- Focus on applicable and practical knowledge of students in this field (they need at least 4-6 months to get used to and work in the factory)

- Organize occasional round tables or visits to leading factories in the wood processing sector of ZDK by the faculty to discuss the real needs of the sector on the spot;
- Strengthen cooperation with the economy and involve professors in solving specific problems in the economy
- Modernize the laboratories of the faculty and work on greater participation of visiting foreign professors at UNZE
- Introduction of subjects that will teach students modern managerial knowledge;
- Learning quality standards in production
- Organize courses (seminars) for engineering staff to get acquainted with the latest technologies
- Insist on a better relationship between faculties and companies in the wood sector and encourage two-way communication. Organize a way for the faculty to be a place where positive experiences from practice can be passed on to students
- Spend more time working in practice
- Slightly better communication with manufacturers
- In addition to theoretical, strengthen the practical knowledge of students
- The focus of education must be focused on the practical application of knowledge and innovations in the profession
- Computer literacy of students must be at a high level and forced throughout
- Field work must be an integral part of education, so that after graduation the engineer is ready to work in the profession
- Do not go too much into the foundations of materials and wood processing. Create staff who are able to do technology transfer, copy existing products, develop new products (not in terms of design but technical - technological), manage production (production manager, technologists, heads of quality departments, planners, purchasers ...), lead companies directors - technical knowledge + basics of economics: EBITDA, margin, cost to company, operating costs ...)
- After a certain time, make a cross-section, wishes (plan) - effects, both by the faculty and by the company, ie the employer
- The connection between the economy - the faculty-student - should be more specific

- Finding ideas for products already during the study
- Try to pay more attention to practical work on more modern and special garden processing machines specifically in our industry. To facilitate learning and more application of practical work, because in essence, in addition to theoretical knowledge, practical work is also extremely important, ie the application of theory in practice
- Insist on the concept of connecting the economy, LIND laboratory and the University in the study of wood processing
- Provide a modern and practical curriculum
- To fill in such questionnaires-surveys together with interested companies on the spot because market research is practically the most important segment of this and all other projects
- Not to enroll more than 20 students, but to be well educated in a narrower professional field, with compulsory information education (knowledge of AutoCAD and knowledge of SolidWorks and knowledge of CNC machining is desirable)
- Emphasis on production machinery (and especially emphasize the specificity of the workpiece). Learn the properties of wood well. Go to learning and applying basic mechanical engineering combined with knowledge in the field of management and organization
- Strengthen students' practical knowledge through practical work, capacity development for new product development, acquisition of key skills and use of new technologies
- Professors and assistants have to spend more time in practice or come directly from companies

4. The most important determinants of vocational studies- Design and Technology in wood processing

Based on the above premises, and through very meaningful cooperation with respectable foreign partners (universities in Bern, Rosenheim, Ostwestfalen - Lippe, etc.), who have inherited the tradition of dual education for years, the curriculum of Design and Technology in wood processing studies at the MF UNZE has been developed.

The most important determinants of its planned implementation structure:

- the study is three years, has 180 ECTS credits and in the future will be based on a dual concept which means that the student spends one month in class (four weeks of lectures and exercises), and then 15 days in business (two weeks) and so on throughout the semester and during all three years of study;
- in the sixth semester the student does the final work in the business system and is completely related to the business sector;
- summer internships and internationalization of studies (commitment to the economy and mobility of teachers and students) are especially emphasized, and students in all years of study learn English, with the introduction of another foreign language (German) in the final year;
- During the studies, the student will have a total of 30 - 35 courses (12 in the 1st year, 13 in the 2nd year and 9 in the 3rd year with industrial practice and final work), of which five are elective. These five electives will choose from a range of 15 to 20 offered, in order to supplement his knowledge in the field that is the subject of his greatest interest and future professional / work engagement;
- In the overall structure of study courses, it is evident that study has basic knowledge in about 20% of courses (mathematics, foreign language, information and communication technologies, etc.), general and profiled construction knowledge in about 20% of courses (construction design, graphic design, CAD technologies, etc.), general managerial-organizational knowledge (logistics, entrepreneurship, organization, management, production systems, etc.) in about 20% of subjects and, finally, production-technological knowledge in about 40% of subjects, wood science, tools and machines, composite materials, gluing techniques, surface treatments, quality of processes and products, etc.).

The analysis of the work of business systems and the processed surveys in this paper clearly indicate that there is a lack of engineering staff in the wood processing industry. All this once again underlines the need to establish this study at UNZE, which is in line with all strategic determinants of the development of UNZE, as well as ZDK, which is the founder of UNZE. Do we have to wait for all legal provisions that would "inaugurate" the concept of dual education in the BiH higher education system? Our opinion is NO, because the proclaimed concept of better economic connection of the university with the economic environment and the transformation from a Lecture to an Entrepreneurship university lies in the minds and knowledge of the people and not in mere

commanding regulations. Of course, not everything is ideal in the organization and preparation of the concept of dual education because it requires a significantly higher level of cooperation between the academic sector and the economy. In general, the concept requires greater obligations and responsibilities on both sides because part of the teaching process is moving to factories that are now not a place for students to visit but a place for concrete student work. In that sense, most of the work will have to be done on the legal regulations that should regulate the status of student-workers in the company (transportation, safety at work, student contribution to the company's development, scholarships, innovation and copyright, etc.). It is clear that for a serious approach to dual education there needs to be a national strategy for building a higher education system.

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The significant role of E-learning on Students Performance

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Abstract

The purpose of this research paper is to understand the role of E-learning on students' academic performance. To successfully conclude this paper, secondary research was conducted and critical analysis of the literature on E-learning was done to understand the relevance of e-learning on student academic performance. Results show, that even though E-learning is vital in enhancing student's academic performance, it is quite clear that due to different factors especially lack of technology and IT skills, blended learning was a more inclusive alternative in synergizing E-learning and face to face learning. Further, recommendations are provided based on the findings of e-learning literature on this paper.

Keywords*: E-learning, students' performance*

Introduction

The modern world is experiencing a significant transformation as the industrial society is transforming to the information society of the 21st century. This dynamic process is changing many aspects of our lives, including knowledge acquisition, interaction, and entertainment (Sehrt, 2003). Face to face learning may not suit the growing need for learning thus E-Learning is becoming an alternative and as the evolution of distance learning uses network technologies to facilitate the learning process, anywhere, monitor learners' performance and report their progress. E-learning refers to the use of technology to online accession of resources and provide learners with collaborative environments where every individual seeks information, evaluate it,

and share it collaboratively. E-learning sometimes matches the learning needs of non-traditional students, but also facilitates traditional students learning needs through cost-efficient alternatives. Common systems such as Blackboard and WebCT are designed to facilitate the needs (discussion chat, document distribution, assignment, and online testing) (Pardamean & Suparyanto 2014).

Literature review

E-learning on students academic performance

Many of today's learners have grown up utilizing various digital tools that have become irreplaceable in their lives (Looi et al., 2010). If the use of digital tools can be implemented effectively in educational settings, student progress can still be achieved through skills engagement activities and motivation by such methods. Technology in academic institutions enables learners to exchange information, share knowledge or experiences with others at the time of the learning process (Karaaslan et al. 2018). This finding relates to the important issue of memory formation and showing that learning is not a single entity, but it is a process which requires the involvement and functioning of multiple steps.

However, still there is a general skepticism about the effectiveness of e-Learning (specifically with the course-design) as compared to more traditional approaches. It takes specialized skills and knowledge to implement online courses that are not generally found in most developing country educational systems. Course design significantly impacts student learning (Zorn & Kumler, 2003). If the course is not designed appropriately students may face difficulty with how the material is delivered and taught to them as sometimes in these countries, as ccomputers in general are not widely available and Internet connected computers added to this the internet costs, especially in rural areas. Traditional approaches to teaching and learning may also be a barrier. In many developing countries, students do not necessarily understand the instructor as a 'facilitator' but rely on the traditional sense of the 'teacher' (Adrian, 2010).

Each student must have basic computer skills or knowledge on utilizing IT devices and to participate in an e-learning system. Pardeman & Suparyanto (2014) found that students computer skill levels are directly correlated with student's academic performance level. Madigan, Goodfellow, and Stone (2007), identified 5 computer skills constructs: basic computer skills,

electronic communication, spreadsheet and word processing, information research, and presentation. To succeed in e-learning, participating students need to have these computer skills to operate the related programs. Sometimes, a vital learning experience can be achieved in self-directed e-learning environments designed with interactive contents and feedback. Self-directed e-learning programs allow students to make numerous attempts to produce successful outcomes, which gives them the sense of being successful learners and motivating them (Chyung et al. 2010). When students use self-regulative learning techniques through e-learning, they produce higher learning outcomes (Webster et al. 2008).

The rhythm that technologies took to spread has led to virtualization (individual's basic social needs met via digital devices) (Huda et al. 2017). This rhythm of virtualization has assumed new teaching methods such as group communication in distance learning (Burdina et al. 2019). It is claimed that online communication in distance with the teacher and other students positively affects student's motivation and the academic progress. Through "On the spot learning" (analytical learning) method applied into the e-learning curricula, communication between the student and the teacher during classes is enhanced thus leading to a better academic performance. In some cases, the student might not be comfortable with in class, so online learning contributes to greater interest and a better academic performance as it gives a boost to the learning process management where there is an online communication between classmates and where the teacher is aware of the involvement scale of each student (Ma & Wei, 2016). Warschauer (1997) argued further that interaction in online environments where intimidation opportunities between individuals are decreased, create less pressure than in face-to-face interactions. This produces a membership of community and the feelings of cohesion that develops amongst learners especially in their group work.

Furthermore, WBL (web-based learning) does helps students to increase their commitment to learning. This method provides more opportunities for instructor-student interaction, and enhanced learning environment. WBL facilitates in fulfilling students' knowledge gaps by providing resources which they utilize. Jaaman et al. (2013) identified the importance of cultivating teaching and learning through WBL claiming that it is a useful tool of providing learning experiences to students and improving their academic performances. Compared to solely traditional classroom learning, WBL can improve both students' knowledge on the subjects learned and information acquired as it assists students, specifically the low performing

students, to retain continuously more knowledge, improve their grades and make them become better learners. Thus, students become more independent and learn on their own time regardless of students' learning styles and achieve own learning goals.

Another major concern for teachers is the feeling that WBL just does not fit their subjects but also including the fact that WBL needs resources including appropriate classroom setting for gamified activities, and significant knowledge on gamification. Though, many teachers perceive WBL beneficial but also a risk for classroom atmosphere (Mumtaz 2000, Mena & Parreno 2017). Teachers' perception of students' lack of interest in gamified courses also prevent them from using it in their courses as they feel their effort in preparing web classes is not worth it because students do not value it properly for the fact that both parties lack the relevant skills and knowledge to use those. Moreover, online activities might negatively affect relationships between colleagues who disapprove the use of gamification in the classroom when uncontrolled noise arises during activities. Teachers seem to believe that if they are not carefully controlling such activities these events could become a potential source of conflict with other colleagues.

There are several course management systems, such as Blackboard, Desire2Learn, Moodle which promote teaching and learning activities in a joint environment. Such platforms distribute information to learners; enable student to communicate via emails, share announcements, online chatting, course learning materials and on-line assessments. Generally, students become comfortable with the use of these platforms because communication with instructor is enhanced significantly and their performance is improved (Uziak et al. 2018). Students considered these online platforms as a useful but also as additional tools in course delivery. They reported that course materials on these platforms were a valuable supplement to traditional classroom teaching. Other contributing factors identified by students were that online learning gave added value and allowed students to develop IT skills while also learning subject related materials (Barhoumi & Rossi 2013). Collaborative learning environment on such learning systems establish communication through discussion boards, tools that can effectively trigger and consolidate learners' cooperation in an interactive online community. Moreover, Alharbi (2015) found that the online course tools, such as blogs and discussion boards facilities of Blackboard improved reading and writing literacy skills of university students. The use of these tools, helps students to edit and proofread materials they published on their blogs, assist learners to adapt to the reading and writing, it helps them to use more formal English and minimalize spelling or

grammatical errors. Blackboard have facilitated collaborative learning and fostered social interaction learning activities geared toward the development of integrated reading and writing skills. Students become motivated to work in this online communities, where they learn from each other much more compared to their colleagues in a traditional instructional setting.

The drawbacks of e-learning such as reduced interactions and high drop-out due to dissatisfaction can be concealed by the advantages of face to face learning. Even if IT has developed over the past years and e-learning has influenced education, sometimes it might not be effective to be implemented in curricula, depending on the purposes of curriculum (Bolliger & Martindale, 2004). Blended e-learning keeps the advantages of both face to face learning and e-learning because it promotes greater learning by combining the effectiveness and the socialization opportunities of the classroom with the technological enhancements of online learning. Programs delivered through both the conglomerate of face to face learning and e-learning will allow students to absorb knowledge and skills relevant for their learning experiences (Suprabha & Subramonian 2015). Nonetheless, blended Learning is a useful approach, because it changes the focus of learning design by shifting the emphasis from simply considering the traditional or e-learning to the synergy of both of those though facilitating improved learning outcomes, a sense of community and the effective use of resources. On the other hand, some courses have bases, which are challenging to teach through an online platform because of the laboratory experience (or other necessary facilities which e-learning might not provide) even if such courses might offer a more flexible degree program (Debashis 2019). Sometimes online pedagogy might not provide a good transition for students who are accustomed to traditional teaching styles.

Methodology

In this research paper, the methodology that has been applied by the researcher has been only secondary research. Through this research methodology the researcher aimed only in collecting literature and conducting a significant critical analysis of e-learning on student performance. The secondary research materials used were books, empirical journals, and theoretical journals.

Conclusion

During this research project, there are several limitations that the researcher faced on the process of finalising the paper.

Initially, it is important to reconsider that this paper is only based on secondary analysis. Due to this fact the researcher is limited because the data analysis includes:

i. ***Lack of control over data quality-*** *It is well known that secondary analysis might offer to the researcher the opportunity to examine and analyse data which are of a good quality. Not biasing the quality of the data collected by the researcher, it is important for the researcher to understand and agree sometime that the data collected might not fulfil all the research objectives and nonetheless might not be the exact data from a topic that would have been attractive or fulfil the needs of other researchers.*

ii. ***Lack of familiarity with the data-*** *Due to the fact that the data is collected by other researchers, it is a bit time consuming and a period to familiarise with those is necessary because the researcher needs to understand how the variables are coded and other issues relating on how data has been organised.*

iii. ***The data might be old and outdated-*** *Considering the topic of e-learning where technology is the reference point for all the dynamic developments, some literature might be outdated and might not reflect the actuality of e-learning developments and platforms.*

iv. ***Absence of key variables-*** *Secondary analysis portrays the analysis of data collected by other researchers for their own purposes, it is important to mention that some of the variables on these analysis might not have been significantly relevant to the actual researcher topic.*

Even though there are limitations, the researcher was able to critically analyse the significance of e-learning on student performance from this secondary research. E-learning has been conceptualised as a method of knowledge transfer which might create flexibilities in many aspects. These flexibilities include the knowledge flow, distance communication, online materials, etc. However even though e-learning facilitates there are students who prefer face to face learning methods because they feel that e-learning does not suit their course structure and nonetheless it might not be a useful method because it creates distractions or might not fulfil student needs thus not allowing them to enhance their academic performance. Based on most the research findings, it is confirmed that blended learning might be the best practice for students

because it synergises the best tools of e-learning and face to face learning methods that might facilitate student learning and enhance their academic performance.

Recommendations

There are several recommendations that universities can adopt that might assist student learning and thus contributing to their academic performance. These include:

- There should be short training courses for both teachers and students on E-learning.
- IT laboratories with internet facilities might be a part for most departments in universities.
- The teaching process it is advised not only to rely on the traditional teaching but might also consider Blended learning where traditional teaching is supplemented by the utilization of technology. This might also help students to explore opportunities offered by blended learning and E-learning.
- It is recommended that any chosen E-Learning Platform must add more course content and materials online.

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