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## **Journal of Economic and Social Development (JESD)**

### **Vol. 7, No. 1, March 2020**

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## FOREWORD

In the first number of the seventh year of regular publishing, *Journal of Economic and Social Development* offers several actual topics. Our authors focus on the crucial social-economic relationship in the paper *Determinants of Migration to the European Union and Integration Strategies: A Two-Fold Cluster Analysis*. Further, *The Correlation between Financial Profitability and Stock Market Performance of Companies Listed on the Bucharest Stock Exchange* is examined as a permanent dilemma for all investors.

The paper *Importance of Technological Capabilities for Achievement Competitive Advantage of Croatian Export Firms* shows the author's interest in the increase of success of Croatian exporting companies, which is essential for a relatively less developed country.

All other papers cover a wide scale of authors' research interests in different social and economic environments. As always, we encourage a variety of topics in order to improve the exchange of diverse ideas among academicians and broader reading society.

*Editor*  
*Marijan Cingula*

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# Global Value Chain, Productivity and Job Market Effect

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## Abstract

Applying a set of comprehensive Global Value Chain (GVC) indices, this study evaluates the GVC's employment impact with the most recent WIOD dataset between the years 2000 and 2014 from 56 industries in 43 economies, which include 28 EU countries and 15 other major countries and are classified into high-, middle-, and low-productivity groups. The results show that GVC participation only has some small positive impact for more advanced economies when the forward and backward GVCs are combined in estimation, all other impacts are very weak and insignificant.

Also, the backward GVCs tend to be more beneficial in generating domestic job opportunities than the forward GVCs, especially for the less developed economies.

*Keywords: backward GVC linkage, employment, forward GVC linkage, Global Value Chains, GVCs*

## 1. Introduction

International trade has been increasingly dominated by global value chains (GVCs), where the intermediate goods and services, instead of the final goods, are exchanged between countries. A joint report by OECD, WTO and UNCTAD finds that between 30% and 60% of G20 countries' exports are comprised of imported inputs or used as inputs by others (OECD, WTO & UNCTAD, 2013). United Nations Conference on Trade and Development's 2013 World Investment Report also finds that about 60% of global trade (\$20 tri) consists of trade in intermediate goods and services, which are then incorporated at different stages of production (UNCTAD, 2013). According to an OECD report in 2015, around three quarters of international trade is businesses buying intermediate inputs (OECD, 2015).

The prevalence of GVCs has significantly transformed the world trade, and therefore the definition of exports and imports.

As the traditional measures of trade and competitiveness change, so should their interpretation and their impacts on economy. With value-added trade, the relationship between trade and employment becomes more complicated. The labour content associated with a country's international trade goes beyond domestic labour contained in exports and foreign labour contained in imports. With GVC trade, three more categories of employment come into play: foreign labour contained in exports, domestic labour contained in imports and third-country labour contained in a country's imports (Jiang & Milberg, 2013). Since GVC measures the degree a country's participation in global value chains, it focuses on the imports/exports of intermediate goods, while ignoring the imports/exports of final goods. Imports of final goods affect domestic job market negatively to the degree that the imported goods substitute for the domestic final goods. Imports of intermediate goods could still have similar substitution effect on domestic jobs. However, imported intermediate goods are directly used by the importing industry for further production, thus likely expanding its demand for labour. GVCs' perspective also highlights the positive impact on domestic jobs when the import contains significant domestic labour content, as illustrated in the case of iPhone and iPad. On the other hand, although exporting intermediate goods or services shares the same positive impact on domestic jobs as exporting final goods or service, it is also exporting downstream job opportunities to other countries, thus adding possible negative impacts on domestic jobs. As GVC trade becomes increasingly

dominant in the world economy, it is important to highlight all these important impacts hidden in the traditional measure of gross trade.

The current study will examine the GVC's employment impact using the World Input-Output Data from 56 industries in 43 economies. The 43 economies including 28 EU countries and 15 other major countries in the world are classified into three categories based on GDP per person engaged: high-productivity, middle-productivity and low-productivity economies. Based on the multi-country data, we try to examine if deeper involvement in the GVC is beneficial or detrimental to the domestic job opportunities. Are there any differences in the GVC's employment impact between an advanced economy and a less advanced economy? The hypothesis to be tested in the current study is that the employment impact of the GVC participation will exhibit a different pattern among the economies of different level of development. We cannot mechanically copy one country's experience to another.

## 2. Literature Review

Studies on GVC trade's impact on employment started to appear in the literature around 2000, initially focusing on the impact of outsourcing. As summarized in Görg (2011), the impact of outsourcings on employment could be complicated, including a technology (or relocation) effect and a scale effect [in the terminology of Hijzen & Swaim (2007)] the former displacing workers and the latter increasing business productivity, operation efficiency and sales, thus increasing employment.

Studies on employment impact should consider not only direct effects on the enterprise engaging in offshoring, but also possible indirect and second-order employment effects on other firms and broader ripple effects on the overall employment in the economy.

Empirical studies have generated mixed results. In a report that analyses the specific factors that affect the competitiveness of developing countries in GVCs, Bamber, Fernandez-Stark, Gere, and Guinn (2013) suggests that, for developing countries, GVC participation generally tends to lead to job creation and to higher employment growth. GVCs are also found to cause reallocation of jobs across and within countries (Grossman & Rossi-Hansberg, 2008). Reallocation of jobs between occupations takes time especially for low-skilled workers. In the presence of frictions in labour markets, the process of reallocation can lead to short-term unemployment in certain industries or occupations, even if aggregate employment may not be reduced. Taglioni and Winkler (2014) emphasizes how GVC trade can help upgrade the quality of the local labour force through three mechanisms: demand effect, training effect and labour turnover effect. Therefore, GVC participation may cause higher demand for high-skill workers.

Some earlier multi-country studies generate mixed results. Using twelve OECD countries' sector data that covers 26 industries from 1995 and 2000, OECD (2007) finds small job loss effect from offshoring. For a 1% increase in offshoring, the sectoral employment will contract by 0.15% in manufacturing, but roughly 0.08% in services. The impact on employment varies from sector to sector and from country to country. Falk & Wolfmayr (2008) finds similar small negative impacts of outsourcing on employment in both the manufacturing and non-manufacturing sectors by using input-output tables for five European countries. Hijzen and Swaim (2007) uses sectoral data for 17 high-income OECD countries from 1995 and 2000 in a similar study. By separating the technology (or relocation) and the scale effects, they find offshoring has no effect or a slight positive effect on sectoral employment, which is consistent with findings by Amiti & Wei (2005a; 2005b). Their findings suggest productivity gains from offshoring may be sufficiently large that the jobs created by scale effect completely offset the jobs lost by relocation effect.

Current empirical studies on GVC's impact on employment tend to focus on one of its two important dimensions: outsourcing or offshoring, what is now termed "backward linkage" in the GVC literature. There are few studies on the "forward linkage" impact. Under the strong influence of traditional framing in theoretical and empirical studies on the employment impact of international trade, it is understandable to see how the backward linkage has gained such prominence in the literature. However, global value chains link an economy not only through importing intermediate

goods from its upstream foreign suppliers but also through exporting intermediates to its downstream foreign users, the “forward linkage”. A study on GVC’s employment impact should take both the “backward linkage” and “forward linkage” into consideration to provide a complete picture. One recent multi-country study (Farole, Hollweg & Winkler, 2018) specifically differentiates backward from forward integration when it examines the GVC impacts on labour demand. Their findings suggest that although a one percent increase in backward GVC integration (as measured by the level of foreign value added in exports) is associated with a 0.40 percent increase in labour demand (as measured by total labour value added), the intensity of both backward and forward GVC integration is negatively correlated with labour demand. However, in Farole, *et al.*, (2018), the labour demand variables are measured by the labour compensation (total labour value added level and its share), instead of the actual number of workers/employees or working hours impacted. Since total labour compensation is affected by both the quantity and quality of labour, the result could potentially be biased by the skill composition of the labour force. Also, LACEX data used in Farole, *et al.*, (2018) is limited to a number of years (Five years: 2001, 2004, 2007, 2011, and 2014).

This paper intends to complement the existing empirical studies on GVCs impact on employment by applying a comprehensive set of GVC indices recently developed by Wang, Wei, Yu & Zhu (2017), which measures both the backward and forward GVC linkages based on data from the World Input-Output Database that covers the years continuously from 2000 to 2014 across 56 primaries, manufacturing, and service industries in 43 economies. We hope our study will shed more light on the current issue surrounding GVCs’ impact on employment in the multi-country context.

The rest of the paper is organized as follows: the next section discusses the GVC measurement and related data; Section 4 introduces the theoretical and empirical models for our estimation; Section 5 then discusses the estimation results; finally, in Section 6 we draw some conclusions.

### 3. GVC Measurement and Data

A GVC can be simply defined as the value added of all activities around the world that are directly and indirectly needed to produce a final product, like an iPhone. A little more elaborate definition, adapted from the Global Value Chain Initiative at Duke University, states that “[a] global value chain describes the full range of activities undertaken to bring a product or service from its conception to its end use and how these activities are distributed over geographic space and across international borders” (DFAIT, 2011; Amador & di Mauro, 2015). The key elements of a GVC are therefore “value-added” and “disintegration of the process across borders”.

In order to trace out the source and use of the value-added across international borders, a world input output table is typically used to account for the GVCs at country-industry level. Each row of the input-output table shows how a country-industry’s output is used as intermediate inputs across industries, and as final products, in various countries in the world. Each column shows how much each country-industry in the world contributes to the production of a particular country-industry’s output. The value added from an industry is its output minus the value of the intermediates inputs.

Following Leontief’s pioneer work in input-output model, matrix operations are then used to establish the relationship between the input requirements from all the related country-industries and the change in the final demand for a product. The cross-border input-output connection then provides the basis to measure the degree of global value chain participation.

There have been various measures for GVC participation used in literature. The most recent and comprehensive one is proposed by Wang *et al.*, (2017), which clearly define GVCs only as those value added creation whose embodied factor content crosses national border for production purposes, and proposed a set of GVC participation indices, corresponding to a producer’s perspective (based on forward industrial linkages) and a user’s perspective (based on backward industrial linkages).

The backward linkage shows how much an industry depends on the imported intermediate inputs from other countries. China’s tire industry importing natural rubber from Thailand, Indonesia, and

Malaysia is a good example of backward GVC linkage. The backward GVC participation index is thus defined as the share of all upstream sectors' value-added in an industry's total GDP:

$$GVCpt_B = \frac{GVC_B}{Y'} = \frac{GVC_B_S}{Y'} + \frac{GVC_B_C}{Y'} \quad (1)$$

The forward GVC linkage shows how much a country-industry contributes to the global value chain activities by exporting intermediate inputs to other countries' industries. US auto industry exporting billions of dollars of auto parts to Mexico and Canada's auto industry is an example of the forward GVC linkage. The forward GVC participation index is thus defined as the share of all downstream sectors' use of a home industry's value-added:

$$GVCpt_F = \frac{GVC_F}{Va'} = \frac{GVC_F_S}{Va'} + \frac{GVC_F_C}{Va'} \quad (2)$$

Since an industry could be engaged in both backward and forward GVC activities, a GVC ratio can be derived from the relative values of the two indices to indicate a country-industry's position in the global value chain activities. If we define GVC Ratio as the ratio of forward participation index to the backward participation index, a higher value indicates that the country-industry is dominated by upstream production activities in that global value chain. The world GVC ratios trend from 2000-2014 and for three productivity country groups are presented in Fig. 1. The figure shows an overall trend of moving from more downstream production to more upstream activities in GVC. There were big fluctuations for low-productivity countries (Group 3), but overall, they followed the same pattern as the world trend. The exception was high-productivity countries (Group 1). They had been moving away from upstream production to more downstream activities in GVC.

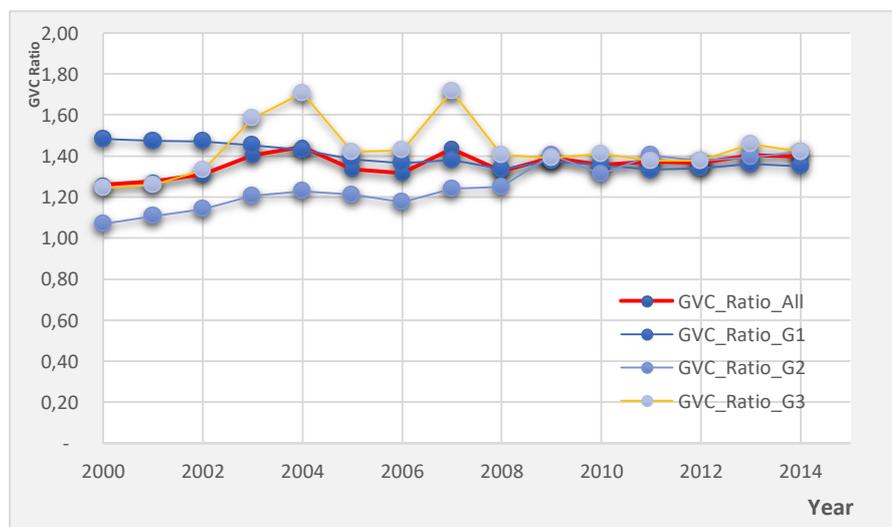


Fig. 1. World GVC Ratio (2000-2014)

We will use the World Input-Output Database (WIOD) constructed by the WIOD Project. As discussed in (Timmer, Dietzenbacher, Los, Stehrer, & Vries, 2015), the advantages of WIOD over other databases are public availability and free access to time series industry-level data, full transparency on the underlying data sources and methodologies, and extensive satellite accounts with environmental and socio-economic indicators that match the industry classification for the trade tables. The data derivation and processing has been greatly facilitated by the research team at University of International Business and Economics in China. Primarily based on the accounting methods in Koopman, Wang & Wei (2014) and Wang *et al.*, (2017), the team has constructed the UIBE GVC Index system from the major inter-country input-output databases (currently it includes

data from WIOD, OECD-TiVA, GTAP and ADB-MRIO). Our measures of the US GVC participation are extracted from UIBE GVC Index dataset that is based on WIOD.

WIOD Project currently has produced two dataset releases. Release 2013 consists of world input output tables for 35 industries from 40 countries (27 EU members and 13 other major countries) in the world for the period from 1995 to 2011. Release 2016 covers data from the period 2000-2014 with 56 industries from 43 countries (three more countries were added: Switzerland, Croatia and Norway). Unfortunately, the two datasets cannot be directly combined due to the fact that Release 2013's 35 sectors are classified according to the International Standard Industrial Classification revision 3 (ISIC Rev. 3), with its tables adhering to the 1993 version of the SNA, while Release 2016's 56 sectors are classified according to the ISIC Rev. 4, with its tables adhering to the 2008 version of the SNA. Our study will use the data based on Release 2016.

#### 4. Regression Model and Methodology

Within the framework of Hamermesh (1996)'s approach, we can derive the labour demand in the spirit of Amiti and Wei (2005) from the industry production function given by:

$$Y = A(fw, bw)L^\alpha K^\beta \quad (3)$$

Where output  $Y$  is a function of labour  $L$ , capital  $K$ . The productivity shifter  $A$  is a function of the industry's forward GVC linkage ( $fw$ ) and backward GVC linkage ( $bw$ ). An industry's productivity can benefit from backward GVC linkage as a result of increased specialization, access to more variety and higher quality of imported inputs, and stronger incentive for domestic suppliers within the same industry to lower costs under the pressure from foreign supplier competition (Crisuolo & Timmis, 2017). The returned domestic value-added components in GVCs serve as a channel to shift some efficiency dividends back to the home country after foreign firms have enjoyed the benefits of technology, know-hows and management transfers embodied in the GVC participation.

Based on the production function, a general form of the conditional labour demand can be derived from the first order conditions of the cost minimization problem. We can then specify a regression model that estimates the GVC's impact on the labour demand  $L$  as:

$$\ln L_{it} = \beta_0 + \beta_1 GVC_{it} + \beta_2 \ln Y_{it} + \beta_3 \ln w_{it} + \delta_i + u_{it} \quad (4)$$

Where  $Y$  is the industry output;  $w$  is the labour to capital compensation ratio ( $w_{it} = \frac{w_{it}}{r_{it}}$ );  $\delta_i$  is an industry fixed effect dummy, which controls for any heterogeneity across industries;  $GVC$  is an overall measure of GVC participation, which is the sum of the forward and backward linkage GVC indices,  $GVC = bw + fw$ . In the actual estimation, we also use the ratio of the forward to backward linkage GVC indices in place of  $GVC$  to measure how the GVC participation structure affects the employment.

It is highly likely that the firms engaged in downstream activities have different impacts on employment from those engaged in upstream activities in GVCs. In order to differentiate the impacts on labour demand between forward GVC linkage and backward GVC linkage, we break down GVCs and run the estimation against  $bw$  and  $fw$  as separate independent variables in a similar model setup:

$$\ln L_{it} = \beta_0 + \beta_1 bw_{it} + \beta_2 fw_{it} + \beta_3 \ln Y_{it} + \beta_4 \ln w_{it} + \delta_i + u_{it} \quad (5)$$

In our estimations in () and **Errore. L'origine riferimento non è stata trovata.**), we also break down GVC into simple and complex types.

The 43 countries in the dataset are also classified into three groups according to the degree of economic development, which is based on the labour productivity (Fig. 2). Each country's productivity is calculated by dividing its GDP by all persons engaged in production. The top third in the ranking is designated as high-productivity, the bottom third as low-productivity and the middle

third as middle-productivity economies. We estimate the three groups separately and also as an aggregate whole in the study.

Ranking Group	Country			
High-Productivity	CAN	DNK	NLD	IRL
	FRA	AUS	USA	CHE
	AUT	BEL	FIN	NOR
	SWE	LUX		
Low-Productivity	IND	TUR	BRA	LTU
	IDN	MEX	ROU	HUN
	BGR	TWN	RUS	POL
	CHN	HRV		
Mid-Productivity	LVA	CYP	CZE	MLT
	EST	KOR	SVN	DEU
	PRT	JPN	SVK	ITA
	GRC	ESP		

**Fig. 2.** Country Grouping

The data used for our regression come from the World Input-Output database (WIOD) and its Socio-economic Accounts (SEAs) Release 2016. Release 2016 consists of world input output tables (WIOT) for 56 industries from 43 economies in the world for the period from 2000 to 2014. The backward and forward GVC linkage measures for the US against rest of the world are extracted from the UIBE GVC Index System that is based on WIOT.

Data on all other economic variables for all the countries are derived from the Socio-economic Accounts (SEA Release 2016). These accounts contain industry-level data on employment, capital stocks, factor compensation, gross output and value added with the same industry classification as for the World Input Output Tables.

## 5. Estimation Results

The estimated results are summarized in Tables 1 and 2. As expected from the model setup, the output shows significantly positive impacts on employment, while the relative wage rate shows significantly negative impacts consistently in all model specifications. However, GVC's impact varies in different circumstances. Table 1 reports the estimation impacts of the combined GVC which is the sum of the backward and forward GVC linkage indices. Aggregating all countries in the sample, GVCs do not show any significant impacts on the employment. For high-productivity countries, however, GVCs do have a significant (at 5% level), but small positive impact when they are examined at the overall level where no distinction is made between simple and complex GVCs. Each time the overall GVC participation index increases by one point, the employment in high-productivity countries increases by 0.12 percentage points on average. But no significant GVC impact is discovered for either middle-productivity or low-productivity countries, positive or negative.

Table 2 reports the estimated results as we examine the employment impacts by separating the forward from the backward GVC linkages. Aggregating all countries as a whole, the backward GVC participation shows a significant positive impact. Each time the overall backward GVC index increases by one point, the employment increases by 0.44 percentage points. This result holds across the three country groups of different productivity. However, the forward GVC participation doesn't register any significant impacts, either positive or negative, when all countries are examined as a whole. The same is true for both high- and mid-productivity countries. The only exception is the low-productivity countries. The overall (and complex) forward GVC participation shows a significant

negative impact on the employment in the low-productivity countries. Each point increase in the overall forward GVC participation lowers their employment by 0.28 percentage points on average.

The negative impact is even stronger when we look at the complex version of the forward GVC participation. This result testifies to the possibility that participating in GVCs by exporting intermediate goods or services could also export downstream job opportunities to other countries.

As discussed earlier, a GVC Ratio is defined as the ratio of forward participation index to the backward participation index. A higher value indicates that the country-industry is dominated by upstream production activities in that global value chain. The estimation using GVC ratio in place of the GVC variable didn't provide any significant results either from the combined GVC or its breakdown, the simple and complex versions. This result is consistent with the first part of our study, which suggests that forward GVC linkage in GVC has little impact on the domestic employment. The estimated results are not reported due to the limited space.

In addition to the fixed effect model, we also run a dynamic panel data model (DPD) as part of the robustness analysis. In the DPD model, the current labour demand is assumed to be affected by the level in the previous periods. We therefore introduce the lagged dependent variable into the RHS as in Eq (6), and apply a version of GMM estimator proposed in Arellano & Bond (1991).

$$\ln L_{it} = \beta_0 + \rho \ln L_{i,t-1} + \beta_1 GVC_{it} + \beta_2 \ln Y_{it} + \beta_3 \ln w_{it} + \delta_i + u_{it} \quad (6)$$

The estimated results are very similar to the fixed effect model, with significant combined GVC impacts, significant backward GVC linkage effect and insignificant forward GVC impact, confirming a preference for the downstream activities in generating domestic job opportunities in the global value chains. The results are not reported due to the limited space.

## 6. Conclusion

Based on a set of comprehensive Global Value Chain (GVC) indices developed by Wang & *et al.*, (2017), this study examines the GVC's employment impact using the World Input-Output Data between 2000 and 2014 from 56 industries in 43 economies, including 28 EU members and 15 other countries.

The estimation results show that the employment impact of GVC participation is a complicated one. While GVC does register some small positive impact for more advanced economies when the forward and backward GVCs are combined in the estimation, all other impacts are very weak and insignificant.

The results also suggest that the backward GVCs tend to be more favourable to generating domestic job opportunities than the forward GVCs. In other words, participating in the downstream end of the global value chains are more beneficial to domestic job market than in the upstream end in general.

This is particularly the case for the less developed economies, where the lost downstream job opportunities could outweigh the added job opportunities by participating in the upstream end of global value chains.

**Table 1.** Estimation – Combined GVCs' Impacts on Employment

$\ln L_{it}$	(1) All Countries	(2) High-Productivity Countries	(3) Mid-Productivity Countries	(4) Low-Productivity Countries
<b>Overall GVCs</b>				
<b>Constant</b>	-3.630** (1.745)	.477 (1.568)	-3.090 (2.313)	2.069 (2.858)
<b>GVC<sub>it</sub></b>	-.009 (.034)	.122** (.056)	-.033 (.035)	-.052 (.068)
<b><math>\ln Y_{it}</math></b>	.481*** (.076)	.573*** (.031)	.340*** (.106)	.682*** (.029)
<b><math>\ln w_{it}</math></b>	-.519*** (.040)	-.563*** (.028)	-.439*** (.066)	-.597*** (.024)
<b>F</b>	106.48	103.32	20.24	212.83
<b>Prob &gt; F</b>	0.000	0.000	0.000	0.000
<b>Simple GVCs</b>				
<b>Constant</b>	-3.469** (1.503)	-1.184 (1.389)	-2.337 (2.263)	2.786 (2.579)
<b>GVC<sub>it</sub></b>	-.003 (.002)	-.001 (.001)	-.005 (.004)	-.005 (.005)
<b><math>\ln Y_{it}</math></b>	.481*** (.075)	.564*** (.031)	.346*** (.105)	.683*** (.029)
<b><math>\ln w_{it}</math></b>	-.518*** (.039)	-.555*** (.029)	-.444*** (.064)	-.598*** (.024)
<b>F</b>	107.91	110.72	20.24	212.06
<b>Prob &gt; F</b>	0.000	0.000	0.000	0.000
<b>Complex GVCs</b>				
<b>Constant</b>	-3.420** (1.506)	-1.147 (1.390)	-2.288 (2.261)	2.837 (2.585)
<b>GVC<sub>it</sub></b>	.002 (.002)	.002 (.002)	-.0003 (.004)	.003 (.005)
<b><math>\ln Y_{it}</math></b>	.482*** (.075)	.564*** (.031)	.347*** (.105)	.683*** (.029)
<b><math>\ln w_{it}</math></b>	-.519*** (.039)	-.555*** (.028)	-.445*** (.065)	-.598*** (.024)
<b>F</b>	106.35	105.26	19.97	212.17
<b>Prob &gt; F</b>	0.000	0.000	0.000	0.000
<b>Observations</b>	33,341	11,277	12,223	9,841
<b>Groups</b>	2,225	752	816	657

Note: Fixed effect model with time trend. Combined GVCs = forward GVC linkage index + backward GVC linkage index. Standard errors in parenthesis. \*\*\* $p < .01$ , \*\* $p < .05$ , \* $p < .1$ .

**Table 2.** Estimation – Forward vs. Backward GVCs' Impacts on Employment

$\ln L_{it}$	(1) All Countries	(2) High-Productivity Countries	(3) Mid-Productivity Countries	(4) Low- Productivity Countries
<b>Overall GVCs</b>				
<b>Constant</b>	-.643 (2.365)	1.842 (1.618)	1.187 (2.773)	3.189 (2.884)
<b>GVC_b<sub>it</sub></b>	.436*** (.154)	.464*** (.106)	.541** (.248)	.562*** (.169)
<b>GVC_f<sub>it</sub></b>	-.018 (.036)	-.068 (.073)	-.033 (.036)	-.276*** (.095)
<b><math>\ln Y_{it}</math></b>	.491*** (.081)	.585*** (.032)	.351*** (.112)	.694*** (.028)
<b><math>\ln w_{it}</math></b>	-.528*** (.043)	-.573*** (.029)	-.451*** (.071)	-.609*** (.023)
<b>F</b>	93.43	85.60	17.07	191.93
<b>Prob &gt; F</b>	0.000	0.000	0.000	0.000
<b>Simple GVCs</b>				
<b>Constant</b>	-3.696** (1.573)	-1.168 (1.408)	-2.927 (2.256)	2.157 (2.748)
<b>GVC_b<sub>it</sub></b>	-.002 (.001)	-.001 (.001)	-.001 (.002)	-.004 (.005)
<b>GVC_f<sub>it</sub></b>	-.044 (.054)	.007 (.103)	-.079 (.056)	-.162 (.139)
<b><math>\ln Y_{it}</math></b>	.479*** (.075)	.564*** (.032)	.339*** (.105)	.683*** (.029)
<b><math>\ln w_{it}</math></b>	-.517*** (.039)	-.555*** (.029)	-.439*** (.065)	-.598*** (.024)
<b>F</b>	87.02	89.87	16.63	170.95
<b>Prob &gt; F</b>	0.000	0.000	0.000	0.000
<b>Complex GVCs</b>				
<b>Constant</b>	-3.640** (1.668)	-1.509 (1.480)	-2.851 (2.305)	-1.099 (2.878)
<b>GVC_b<sub>it</sub></b>	.003** (.001)	.003 (.002)	.002 (.002)	.010* (.006)
<b>GVC_f<sub>it</sub></b>	-.030 (.084)	-.083 (.155)	-.064 (.083)	-.760*** (.189)
<b><math>\ln Y_{it}</math></b>	.480*** (.076)	.564*** (.031)	.341*** (.106)	.683*** (.029)
<b><math>\ln w_{it}</math></b>	-.518*** (.039)	-.554*** (.029)	-.440*** (.066)	-.600*** (.024)
<b>F</b>	85.54	83.68	15.83	179.59
<b>Prob &gt; F</b>	0.000	0.000	0.000	0.000
<b>Observations</b>	33,341	11,277	12,223	9,841
<b>Groups</b>	2,225	752	816	657

Note: Fixed Effect model with time trend. GVC\_b and GVC\_f is backward GVC linkage and forward GVC linkage measures, respectively. Standard errors in parenthesis. \*\*\*p<.01, \*\*p<.05, \*p<.1

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# Corporate Decision-Making: The Increasing Importance of Supply Chain in Strategic Decision-Making

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## Abstract

Emerging complex demands from internal and external company stakeholders have significantly altered the corporate strategic decision-making process. In our paper, we analyse the shift in strategic decision-making that stems from the ongoing and forecasted changes in the supply chain function.

With a closed loop perspective on supply chain, including the functional areas of production, operations and customer service, we have included relevant studies to outline the most significant implications for decision-making. Starting from this comprehensive literature review, in our case study we create a framework to highlight the synergies and connections between supply chain functions and other corporate functions. The functions assessed are: human resources, accounting and finance, marketing and advertising, information technology, purchasing and legal. The resulting framework is a summarized depiction of the points of connection between these functions and supply chain. The value added of our paper consists of a forward-thinking approach to implications of supply chain developments and how they will further affect the relationship with other functions. The lack of empirical data to construct an empirical model for demonstrating what correlations are most significant represents the limitation to our research. Further research should outline clear metrics for assessing the relationship between functions and analyse their degree of correlation in order to have a demonstrated model for what impacts corporate strategic decision making.

*Keywords: supply chain, corporate strategy, management*

## Introduction

Corporate strategic decision making in worldwide companies is currently changing at a fast rate, to reflect the increasingly interconnected functions and to account for the innovation that has flowed into each function. For small, medium and large companies and for local and global enterprises, there is an increasing need to take into account all the change and development when building up strategy.

For both order qualifier and order winner criteria, it is reflected the need of internal stakeholders' alignment in generating a final product or service that meets requirements and expectations.

The objective of the present paper is to illustrate within the case study section how the supply chain functions – production, operations and customer service – are related with the other functions in a business. The enterprise functions comprised in our paper are, as follows: human resources, accounting and finance, marketing and advertising, information technology, purchasing and legal.

Our case study summarizes the connections and synergies between functions, focusing on the most important common strategic decision-making areas. Our goal is to present in a structured manner the interconnected functions, with a dedicated focus for supply chain. In our view, the present and future

market requirements will be increasingly related to criteria from the supply chain. While no company is able to offer simultaneously and at the same extent advantages of cost, flexibility and service, the relationship between departments is decisive in choosing which one or two of these competitive advantages is branded into the company.

The structure of our paper starts with a comprehensive literature review assessing current trends in corporate strategic decision-making and forecasts of trends that will catch on to the supply chain and alter the interactions with other functions in the process of decision-making and strategy creation.

Further, the case study brings together the learnings from literature and establishes a framework for the relationships between supply chain functions – production, operations and customer service – and all other main functions in a business. The paper ends with a conclusion that outlines the value added of our research and proposes directions for future research, based on quantitative data and an empirical model that studies correlation.

## Literature Review

The literature review section of our paper is dedicated to finding relevant research to attest to the currently increasing importance of supply chain in the strategic decision making of companies.

Findings from books, research papers and official guidelines and regulations are presented in this section, on which we further construct in our case study a framework for corporate decision making.

It is our goal to have an inclusive and comprehensive literature review, in order to ensure the relevance of our framework in the current context.

Desmet (2018) has analysed in his work financial measures connected directly and indirectly to supply chain strategy, with focus on service, cost and cash flow. The author is forward thinking and assesses that in the future, supply chain will be ‘the centrepiece of strategy discussion’. Due to the practical improbability that one company will outperform all its competitors in terms of cost, service and product, the Desmet insists on strategy as an achievable and important differentiator. The strategy of dominating one area – either cost, service or product – can propel the company to a market leadership position. The author underlines that supply chain must be found at the core of the decision-making process and ultimately of strategy, as it should not follow commercial strategy if the goal is differentiation. A perfect example of success can be found in companies such as Amazon, Alibaba or Walmart, which have achieved a top market position with a strategy that prioritizes supply chain factors.

Concepts such as lean, agile and ‘leagile’ have gathered momentum in the business environment, thus moving from being solely used in production organization from being strategic direction for management. At the moment, we have recognized a phase when more and more companies are translating these concepts – lean, agile, ‘leagile’ – from supply chain management concepts to business concepts. As a result, the supply chain is now challenging the other business areas to introduce these concepts into their planning, decision making, operations and, most importantly perhaps, strategies. The company Zappos is an excellent example of success that illustrates this change in corporate strategy and corporate culture. The CEO of Zappos, Tony Hsieh, describes in his book – ‘Delivering Happiness’ (2010) – how his company has achieved a market leadership position.

Customer service is at the center of Zappos’ strategy and therefore service, as a differentiator, has been the key to unlocking the full potential of the company. The order winner criterion has become service, which implies that at the core of the company’s strategy the decision-making process involves supply chain views.

Purvis *et al.*, (2014) describe vendor flexibility and sourcing flexibility as the major concepts around which ‘a leagile supply network taxonomy’ revolves. The authors illustrate the evolution of the lean and agile concepts, that have moved from the point of material flow, to establishing themselves as necessary competences in overall supply chains of companies. While the paper does not rely on empirical data, since only two companies have been studied, the paper does recognize the importance of flexibility in the relationships established with the internal stakeholders.

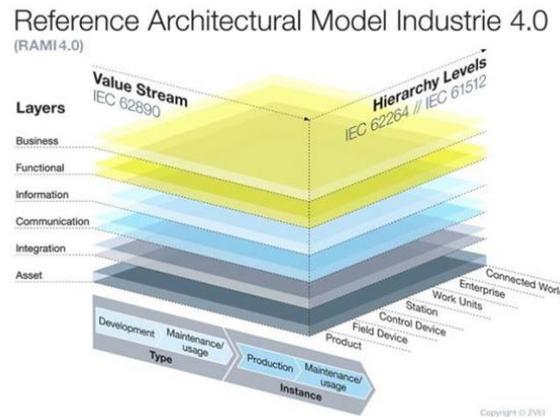
RAMI4.0 – the Reference Architecture Model – is a concept originating from Germany, representing a standard for implementing the concept of Industry 4.0. We identify the connection with corporate decision-making through the fact that the layers of the concept establish the importance of the new supply chain conceptualization for all areas of business strategy. As the global tendency is to evolve to a more automated and technology driven supply chain, the RAMI model is an inclusive framework that focuses on the overall business, rather than singling out supply chain factors. This approach does not only favour generating order winner criteria from the supply chain, but also generating order winner criteria with the support of supply chain factors.

Rojko (2017) underlines that ‘Industry 4.0 assumes broad support of an entire life-cycle of systems, products and series’; thus, the paradigm is involved in the company’s business processes from product design to product delivery. On one hand, this closed loop approach focuses on the ‘smart products’ that are the final output but, in a forward-thinking manner, the smart product features are employed for maintaining a long-term connection to the customer. Thus, the business strategy must incorporate this approach in all areas – from production to marketing or finance – in order to operate properly in this long-term relationship that has been established. On the other hand, the end-on-end updates implied by the paradigm imply that the prerequisite for producing a ‘smart product’ is not only a performant SC, but also a performant business model and strategy.

The German government’s objective has been to propose a unifying approach for the perspective, knowledge and performance of modern companies. Figure 1 illustrates the original three-dimensional RAMI4.0 format in the layers, value stream and hierarchy levels are displayed. The layers of the model are, as follows:

- Assets layer referring to hardware (e.g., robots, conveyor belts etc.) and software (e.g., TMS, WMS etc.) components that are to be further transposed into the digital map of the enterprise;
- Integration layer referring to the information digitally transmitted to the components (e.g., sensors, scanners etc.);
- Communication layer referring to the standardized methods of communication that foster integration;
- Information layer referring to the transformation of data into information that is usable (e.g., usage of big data)
- Functional layer referring to ‘formal descriptions of functions’ (e.g., ERP);
- Business layer referring to the business model format and the synergies between the processes.

By outlining functional and business layers, the RAMI4.0 model (2018) indicates the significance of supply chain capabilities to the corporate decision-making process. Based on these capabilities, it’s not only about the bottom line of identifying a differentiation factor or an order winner criterion, it’s increasingly about using the advantages of the supply chain to enhance overall business capabilities. Whether we talk about a capability that’s suitable for direct marketing to customers, or about one that indirectly generates benefits for internal stakeholders, the supply chain inclusion in the business strategy ensures the employment of the company’s full potential.



**Fig. 1.** Reference Architectural Model Industry 4.0

*Source:* [www.researchgate.net](http://www.researchgate.net)

Qin *et al.*, (2016), Hofmann and Rüsç (2017) and Geissbauer *et al.*, (2016) highlight in their work four new trends emerging from Industry 4.0: factory, business, products and customers. The authors argue that the company's business model and the market landscape are altered to meet demand in a cost-efficient, sustainable and efficient manner. As a result, corporate decision-making processes are increasingly paying attention to signals coming from the supply chain in order to have an updated value-creation strategy.

Myerson's (2012) list of metrics for assessing performance in the supply chain includes the following: delivery reliability, responsiveness, flexibility, cost and asset management. Besides the rather obvious connection to the lean and agile concepts, the proposed measures for performance go beyond the goals outlined for the supply chain. We can recognize that without having a reliable, responsive, flexible, cost effective and asset efficient supply chain, the company cannot meet the expectation of both internal and external stakeholders.

The author proposes the SCOR model and Balanced Scorecard as evaluation approaches that ensure the inclusion of supply chain management in the strategic focus of the company. For a closed loop view of the supply chain, the SCOR model comprises the five bottom-line processes – plan, source, make, deliver and return – which can highlight the niches in the market, thus directing the market towards finding a differentiator. For a helicopter view of the business, with clear perspective on finance, customer, processes, learning and growth, management can employ the Balanced Scorecard. Corporate decision-making benefits from employing structural models, as synergy and connection are increasingly visible to management when deciding on the enterprise's strategic direction.

## Case Study

In this section of our paper, we attempt to construct a framework for showing the synergies between supply chain and the other functional areas of business. In our framework we propose several ways of how these functions are connected, considering the most recent literature and case studies read. Our focus in this pursuit is to account for a forward-thinking perspective, where the future of supply chain and the overall future of work is accounted for.

Starting from Desmet's (2018) assumption that strategy cannot fully and simultaneously accomplish requirements related to cost, service and product, we assume that supply chain can directly or indirectly relate to other functional areas to give a slight edge in the market environment.

Therefore, our framework is not making a case for purely supply chain decision-making, but for the overall corporate strategy, as analysed through the lens of supply chain.

The functional areas of business that we consider for our case study include the following: human resources (HR), accounting and finance, marketing and advertising, information technology (IT), purchasing and legal. We consider the functional areas of production, operations and customer service

to be the integral part of supply chain, as we want to have a closed loop approach to supply chain that involves processes from production to customer delivery and return.

### ***Human Resources***

To begin with, the human resources area is increasingly impacted by changes in the supply chain prompted by Industry 4.0 global initiatives. The World Economic Forum (2018) has published a forward-thinking paper on the changes in the workplace design, based on the advancing technology taking over operational, decision-making and maintenance jobs. The eight cornerstones of the publication include the following: workforce autarkies, mass movement, robot replacement, polarized world, empowered entrepreneurs, skilled flows, productive locals, agile adapters.

The eight emerging trends in the workplace can be directly linked to all functional areas of a company. If we look particularly at the relationship with supply chain, through the lens of emerging Industry 4.0 practices, we can outline a clear shift in the HR requirements. Considering either the increasing replacement of human workforce or the overwhelming request for labour at lower costs, as compared to automatized solutions, it is straightforward that HR must include supply chain in its strategy decisions. Regardless of industry, supply chain processes, from production to operations to customer service, are leading to a shift in workforce requirements at an unprecedented scale.

### ***Accounting and Finance***

The financial performance of the company is interlinked to all functional areas, as all activities can have a direct or indirect impact on measures of performance. Additionally, the strategic goals set for accounting and finance include all functional areas as decision making influencers since all activities related to financial records, budgeting, expenditure and revenue are interwoven into all company's activities.

The emergence of new trends in global supply chains – whether related to production, operations, workforce, customer service, information technology infrastructure, purchasing and legal requirements – require financial undertakings. Therefore, it is vital for a proper financial strategy to consider the company's status and foreseen changes in supply chain, in order to appropriately forecast and accomplish established targets for expenditure and income. As Desmet (2018) empirically assesses throughout his work, supply chain activities can be associated to generating expenditure and revenue, and accounting for supply chain capabilities in the company's strategy leads to an inclusive approach for corporate decision-making.

### ***Marketing and Advertising***

As displayed by several works discussed in the literature review section, the market advantage – order winner criteria – can nowadays be traced more and more to the supply chain. Whether a company has the advantage of product cost, production flexibility or customer service, these are all marketable assets that can sell to customer target groups.

Supply chain performance in any of the areas – cost, flexibility or service – can trigger the way in which a company builds its marketing and advertising strategies. An increasing number of companies nowadays focus on excelling on either one or two of these areas in order to gain a market advantage, knowing that it's not operationally and financially feasible to attempt to include all three with the same degree of importance in the corporate strategy.

On one hand, marketing and advertising are a point of origin for the product's features that become the object of strategic planning. Based on knowing the market environment and its expectations, this functional area can generate a first layer of supply chain targets. A global company, acting in several different market environments, must operate supply chains that can generate cost effectiveness, flexibility or high-ranking services in any combination.

On the other hand, marketing and advertising must follow the lead of supply chain capabilities and enhance the visibility of in-house advantages whilst finding a way to make marketable the

shortcomings to a target customer group. Value creation is strategically decided by marketing and advertising to be presented on the market.

### ***Information Technology***

The increasing importance of technological infrastructure to all functional areas of business have turned IT into a required capability of a modern company. Without the technology to back up the processes in all functional areas, the company cannot be a front runner in nowadays' global business environment. Whether we talk about processes tracked digitally or about labour being automated, all departments are interlinked with information technology function. Therefore, there is no scenario for strategic decision making that does not include the major changes in supply chain.

While currently the most visible information technology trend in supply chain is related to production automation and increasingly available accurate data collection, we must also account for emerging trends. From the publication of the eight futures of work, by the World Economic Forum (2018) we have learned that an extensive array of jobs will be replaced by automated solutions. Since strategic decision making must be forward looking, we can predict that supply chain functions will be increasingly interlinked to IT functions. Production, operations and customer service will be altered to reflect the emerging technological revolution.

### ***Purchasing***

So far, our discussion has been dominated by an inward-looking perspective related to the relationship between the company's functions and an outward-looking perspective focused on customers. When discussing the purchasing function and its relationship to corporate strategic decision making, we bring in discussion external stakeholders – namely, suppliers.

Suppliers of goods and services for all functional areas are the subject of increasingly complex and numerous requirements that ensure more tailored solutions for businesses worldwide. Interlinking supply chain's functions – production, operations and customer service – with purchasing functions can lead to a long list of goods and services acquired for vital company functions. While most purchases are directly related to order qualifier criteria for the market environment, it is more and more the case that supplier relationships are set up for enhancing competitive advantage. Associating one company's inbred capabilities with another company's, whose competitive advantage is different, leads to value creation and the definition of a new order winner criteria in the market.

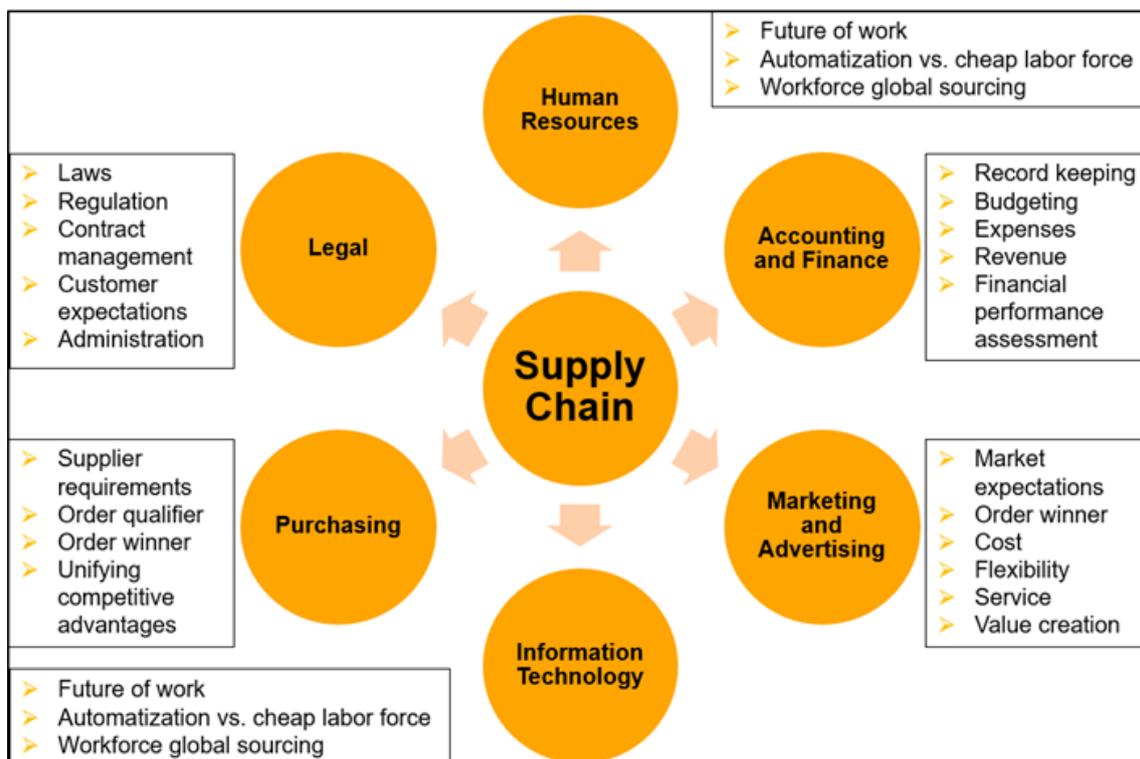
### ***Legal***

Last but not least, the legal function is ensuring that proper administration, regulatory and compliance standards are applied and respected within all the company's functions. From government issued regulations, to standards within industries, the legal function ensures the order qualifier criteria of behaving within the regulatory guidelines is respected. Moreover, managing the contractual relationships with external stakeholders is within the legal function's responsibilities.

From a supply chain perspective, laws and regulations heavily impact production, operations and customer service. An increasing number of standards and benchmarks are being issued, affecting the activity in the supply chain, for example: environmental laws, healthcare regulation, waste management regulation, customer service regulation etc. Strategic decision making must cover all inputs and outputs in the supply chain, in order to be permitted access on the market and have a positive image for customers.

As a result of our investigation into the functional areas and their connection to supply chain, our proposed framework for synergies and connections is displayed in Figure 1. In order to summarize their interlinked goals and decision areas, we have outlined the most significant overlapping areas and the outputs in focus. To sum up, the case study employs theoretical research to propose an overview of the synergies between the supply chain and the other functional areas in companies. The authors' assumption, based on quoted research, is that the involvement of supply chain in corporate

strategic decision-making process can benefit the company and yield an increased competitive advantage for both internal and external stakeholders.



**Fig. 2.** Framework for Connecting Supply Chain and Functional Areas  
*Source: authors' design*

## Conclusion

To conclude, the present paper has employed a thoroughly assessed literature review with research covering several perspectives on the relationship between supply chain function and corporate decision making. As a result, our case study stands out as a well-informed assessment of strategic corporate decision making, as a functionally complex process, with a focus on the relationship forged with supply chain functions, namely production, operations and customer service.

The added value of our research represents the thoroughly assessed connection between supply chain, corporate function and their joint connection with strategic corporate decision making. In the context of the increasingly complex supply chain processes, the other business function must calibrate these changes into their strategic objectives in order to maximize the quality of input and output.

The limitations of our work lie in the lack of an empirical model to assess quantitatively data from companies and their functional departments in order to find correlations. Future directions for research lie therefore in quantitative models, with which one can analyse the correlation of key performance indicators from companies' functions, in order to outline the most significant links. A starting point for data collection can be either by questionnaire, by assessing to what extent and degree the expectations of one function has been met in working with other functions. For supply chain, a correlation between production, operations and customer service must be initially assessed and further tested against the other functions.

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## The Influence of Universities of Applied Sciences on the Increase of Adult Participation in Life-Long Learning

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### Abstract

Modern economy already went deeply into the area of service-oriented economy and labour market demands for highly educated workers. Not every profession, for which higher education is necessary, requires a classical university tuition. Rather, it requires a vocationally trained student/worker. Nevertheless, lifelong learning programs have a significant effect on the employability of workers. In this paper we discuss the effect of a university of applied sciences as an institution usually located in smaller urban areas and, more importantly, usually a higher education institution that has focuses more on training and vocation, rather than science work. Since lifelong learning is strongly connected with the European union, its goals and funding will also be discussed in this paper.

*Keywords: university of applied science, lifelong education, Europe 2020 Strategy projects*

### 1. The Notion of Lifelong Learning

Lifelong learning, as a notion, was first intensively applied in the European union terminology after the European Council meeting in Lisbon (March 23<sup>rd</sup> to 24<sup>th</sup> 2000), where it was concluded that, by accepting the European Framework, new basic skills to be acquired with life-long learning should be defined and that they are a key measure of the European response to globalization and the transition to economies based on knowledge, as well as highlighting that people are the main strength of Europe [1]. That is when the focus was moved from education, which is an institutionalized and organized process, to life-long learning which includes all forms of learning in all circumstances of life [2]. It

is important to highlight that life-long education must be observed outside of the concept of adult education. Life-long education means precisely what the term implies: learning throughout a person’s whole life. The definition of life-long education mostly used today is: life-long learning relates to all the activities of acquiring knowledge, skills, attitudes and values throughout life with the aim of adopting or expanding them, within the framework of personal, social or professional development and actions of an individual [3]. According to that, life-long education does not necessarily require an educational institution because it can be done on a personal level.

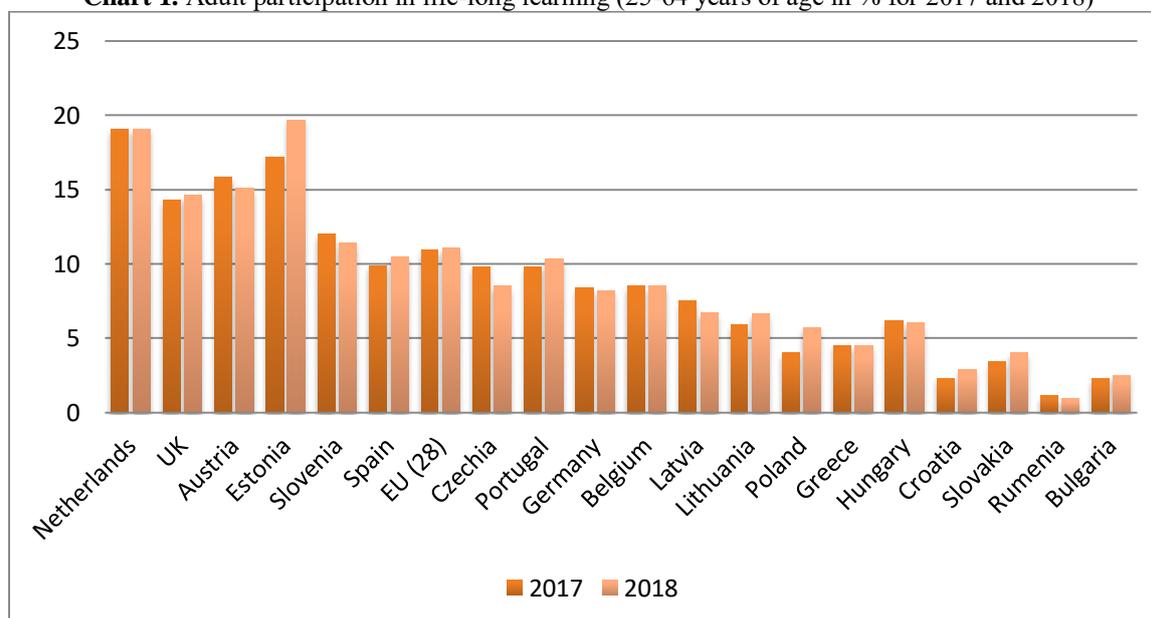
What is key for life-long education is the awareness of the usefulness of it and the awareness of personal and professional gain for every person involved in it. Therefore, a person who is *learning* must differentiate that activity from a cultural or sports activity and aim to enforce the activity of *learning*. The most important principles of life-long learning for an individual are: the possibility to adopt advancements and/or expansions in knowledge, skills, attitudes, and values; the possibility and the need to develop personal potentials in different life periods; and the possibility to access different forms and contents of learning due to the realization of personal desires and the development of abilities. Chart 1 shows a portion of adults taking part in life-long education. Countries like Denmark and Sweden were excluded from the chart because the percentage of life-long learning in those countries, according to the criteria observed, is around 30% so the chart results deviate excessively.

From the observed results, we see that the percentage in Croatia is among the three worst ones. A percentage of 2,3 in 2017 and 2,9 in 2018 is far below the EU average of 10,9 or 11,1, respectively.

What concerns the most that the trend, unlike in the rest of the EU countries, is declining in Croatia.

If the results of previous years would be observed, it would be visible that the percentage was over 3% at the beginning of the decade and that it declined towards 2020. What is also concerning is that, according to a research by Jukić and Ringel, students of institutionalized life-long learning are people with primary or secondary school [2]. Therefore, life-long education is still considered to be a form of re-qualification for people with lower levels of education, not as a form of acquiring new knowledge and skills which will advance the individual at their current place of work. According to a research of work conditions from 2005, taking part in life-long learning reflects positively on employability which is higher in countries where taking part in life-long learning programs is more developed and more pronounced [4]. According to the Management Lexicon, employability is defined as a constant competitiveness of an individual on the labour market considering the knowledge, skills and abilities which are required. It is a need to replace constant employment with constant development and securing the latest knowledge and skills which the labour market demands i.e., constant employability [4].

**Chart 1.** Adult participation in life-long learning (25-64 years of age in % for 2017 and 2018)



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*Source: Eurostat, Code: tsdsc440*

Apart from having to differentiate it from adult education, life-long learning must also be separated from formal education. Back in 1974, Coombs and Ahmed separated the types of education into informal, non-formal and formal education. They define these three types the following way: informal education is a life-long process during which a person acquires knowledge, skills, and attitudes through everyday experience and being exposed to their environment (family, friends, media etc.); non-formal education is every organized, systematic, educational action outside of the framework of the formal educational system which gives a certain form of education to a certain population group, children or adults; formal education is an institutional, chronologically divided and hierarchically structured educational system which starts in primary school and lasts up until the highest academic titles [6]. A university of applied sciences or a university in general are primarily formal education institutions and, as such, they fulfil their purpose. However, higher education institutions must act in the best interest of the community in which they exist; finally, higher education institutions are a pool of knowledge and skills which could be useful to a much wider community, not just students. For that reason, and for the purpose of strengthening the competitiveness of universities of applied sciences, it is necessary to include them in non-formal educational and use the subventions given for life-long education in the process. The EU funds can play an important role in the strengthening of the competitiveness of the university of applied sciences.

## **2. European Funds and Increasing the Competitiveness of the Universities of Applied Sciences**

In order to, especially in light of the economic crisis and the investments, growth, and job openings connected to it, achieve set aims and speed up the realization of projects and investments, the European Commission prepared a new regulation for EU funds for the program period of 2014-2020.

The new regulation enabled the implementation to become simpler, more transparent (partially standardized for various funds) and more focused on set aims, thereby making the effect of available funds greater. This was done, primarily, in a way that a package of common general regulations relating to key funds was brought [7]. This section is not necessarily connected to life-long education, especially in its infrastructural portion. However, what we need to pay attention to are the possibilities that the European funds give for strengthening a non-formal education institution, which has a prerequisite of strengthening the position of it as a formal education institution. We differentiate between five European union funds: Cohesion Fund, European Regional Development Fund (ERDF in further text), European Social Fund (ESF in further text), European Maritime and Fisheries Fund, European Agricultural Fund for Rural Development [7]. The common regulation defined priority investment areas of EU funds. One of the priority areas for investment is the investment into education, skills, and life-long learning. As far as the competitiveness of universities of applied sciences goes, the ERDF and ESF funds are most significant. ERDF highlights (among other things) investing into education, skills, and life-long learning through the development of educational infrastructure as a priority investment. The infrastructure, as such, is necessarily also connected to competitiveness, whether it is attracting students or professors and teachers.

### **2.1 The role of the Ministry of Education and Sports**

In an announcement for the delivery of project proposals: Preparing the reserve of infrastructure projects for the European Regional Development Fund[8], the Ministry of Education and Sports states: it is necessary to renew the infrastructure and equipment of research organizations and high education institutions in order to increase quality and availability of services/research and in order to become well-integrated into the European Research Area (ERA) as a scientific/research and educational centre by doing so. Using new capital investments, the development of competitive economy based on knowledge will be supported through encouraging innovations and support for research and development in the private and public sectors. Furthermore, it is stated that, considering

the recommendations coming out of the Bologna process, but also the global standards for high-quality teaching, the Ministry prescribed, in one of its acts, that the adequacy of spatial capacities for performing classes is determined by putting in relation the foreseen number of students enrolled with the size of usable space in a way that every student must, as a rule, have 1,25 m<sup>2</sup> of usable space.

The fact is that most of our universities of applied sciences have significant problems with capacities and infrastructure and that classes are more often than not held in multiple locations which are, more often than not, intended for other purposes and are only secondarily used for applied sciences education. There are two types of projects that the Ministry is calling for: scientific infrastructure and educational infrastructure. Considering that the university of applied sciences is not a primary scientific institution, such as a university, the projects are that much more significant for its competitive position. Their aim is to ensure better quality and service availability of educational services in order for them to be better integrated in Europe i.e. become recognizable educational centres.

## **2.2 *Life-long learning and Europe 2020***

Education is only one of the wheels in the Europe 2020 program. The experience of member states showed that only absorbing EU funds through projects which are not strategically well thought-out will not ensure synergy and a swing in economic and social growth. Therefore, it is extremely important that the access to planning development be integrated i.e. that it includes all the relevant participants and politics in order for the effect of implementation to be as big and as strong as possible for the development of economy and society as a whole [7]. The European strategy was brought in the midst of a global economic crisis which is unprecedented for current generations. The constant economic growth realized through the previous decade was almost erased during the crisis – the EU GDP 27 dropped by 4,3%, industrial production is on the level of the 1990s and 25 million people, or 11% (in some regions even more than 30%) of the work force was unemployed. Similarly, the public finance area was struck hard. The average deficit of 7% GDP and a public debt of over 80% of GDP shows that 20 years of fiscal consolidation were erased in the two crisis years [7]. With the aim of encouraging the economic growth of the European union, the European Commission started the Europe 2020 project with the idea of creating conditions for a smart, sustainable and inclusive growth. The Europe 2020 strategy consists of five goals: employment, research and development, climate changes and energy sustainability, education and vocational training, and the fight against poverty and social exclusion.

When we talk about education and vocational training, the Europe 2020 strategy encompasses the following reforms: a) prevention of early abandonment of education, b) improving educational outcomes, the quality and relevance of high education programs, c) improving skills and quality of vocational education for the reduction in youth unemployment, d) increasing the participation of adults in life-long learning. Life-long learning finds its place in the Europe 2020 strategy primarily in the encouraging of the development of tertiary economy. In the program guide, the term *Information and Communication Technologies (ICT in the following text)* is used. ICT is an Inter-sector project the aim of which is the development of a common vision on how ICT can help everybody have use from life-long learning based on scenarios and everyday life insights. The use of ICT in education in Europe is spread more and more, but in order to unleash its potential as a starter of change in economies and societies, progress must be made from a fragmented and test use towards the development and the acceptance of the system. Partners include a series of high education institutions, skill development organizations working in a series of educational areas [8]. The College of Slavonski Brod, for instance, included establishing and implementing educational programs not considered to be a study course in the sense of the Law on Scientific Action and High Education in Art.5 P.1 of its Statute. They are based on the life-long learning principles. So far, the College of Slavonski Brod implemented 10 life-long education projects.

### **2.2.1 *The inclusive growth initiative***

The inclusive growth initiative means the strengthening of people with a high rate of employment, investing in skills, fighting against poverty and the modernization of the labour market, as well as a system of training and social protection for the purpose of providing help to people in foreseeing changes and controlling them, as well as building a connected society. One of the measures expected from member states is the so-called *flexicurity*. The European Commission, back in 2007, detected a problem in the system of employment and the social state system. The European Commission text, titled *Communication of the Commission on the Common Principles of Flexicurity* starts with an assessment that the way in which European citizens live is rapidly changing. They highlight four main reasons: The European and international economic integration (globalization), the development of new technologies, particularly information and communication; the demographic ageing of European countries, along with the still relatively low average employment and high long-term unemployment pressuring the social system; the development of a segmented labour market in which, at the same time, some workers are overly protected and other are not protected enough [9]. The European Commission highlights that it is necessary to introduce high quality of initial education, but also to continue investing into skills and knowledge in order to increase the possibility of employment. High participation of life-long education is positively linked to high education and, in the long run, low unemployment [10]. Successful prediction demands constant and detailed dialogue between participants in economy, social partners and other interested sides in the public and private sector: local authorities, public and private employment services, as well as subjects dealing with education and life-long learning. As was stated in the “New knowledge for new workplaces” initiative started by the Commission, this kind of application should help long-term reduction of the imbalance between the supply and demand for certain qualifications on the labour market in order to help improve professional orientation and define the initial and continued schooling which is better adapted to the needs of companies in the context of life-long learning strategies [11].

### 3. The Influence of Life-Long Education on Employability

The social benefits from education and benefits such as lower crime rates, better health of the population, strengthening social cohesion and increasing the quality of political processes due to a better informing of citizens. Finally, it is about investments engaging significant financial means, on average almost 6 percent of GDP in the OECD members, a significant part of which goes to high education. Therefore, it's important to know whether social return justifies those investments i.e. are the benefits of those investments at least equal to the return from alternative investments [12]. The young are, for the reasons stated, encouraged to get educated and stay in education as long as possible.

However, a problem that appeared, especially in the midst of the global economic crisis of 2008, is the question of youth unemployment. This is a growing problem with long-term consequences for individuals, communities, economies and societies. This age group and the question of its unemployment is hard to observe, considering that a good portion of young people in this group is still getting educated.

#### 3.1 Statistical indicators of the NEET category

The statistics done in the EU and in the International Labour Organization encompass the young people aged 15-24. In order to get the most precise ratio of youth unemployment, the so-called NEET category (Not in Education, Employment and Training) is used and it represents the 15-24 age group which completed schooling, is not employed nor is it in training. The NEET category includes young people who are unemployed and are actively looking for work, but also those who are economically inactive for a number of reasons, such as long-term illness or something else. The rate of unemployment is an indicator of those who are unemployed but are actively looking for work and are ready to start working in the following two weeks – the part of economically active population [13].

That is why the literature dealing with this problem is relatively widespread. Bilić & Jukić further state that young people encompassed by the NEET categorization are also called the lost generation,

and there is a total of 13.941.264 of them on the European union level and they cost the Union as much as 153.013.053.902 Euros. Such a massive expense makes up for 1,21% of the EU GDP, which represents an increase in comparison to 2008 when it was 0,96%.

The NEET expense is noticed in the paid social compensations, expenses of various supports and the assumption of the welfare of the lost generation [13]. In the research done back in 2008, Koller-Trbović researched unemployment in the experience of unemployed young people in Croatia. This kind of research, dealing in deprivation and personal experience is not so interesting for this paper, but there is one very interesting category: namely, most of the categories and notions from the questionnaire which was done are focused on the negative causes and consequences and social terms from the “guilt” aspect of the others and personal “sacrifice”. He states that there is a bitterness, anger, a feeling of injustice and mistrust towards most social elements which have a certain impact on contemporary courses of development can be read. Primarily, it is highlighted that the “state” and the politicians are the ones that are expected to help the most, especially employers and private company owners foremost. Participants in the research expect the state and the politicians to use legislative solutions, stronger control and similar measures to introduce order into everyday life, employment included. From that, it is derived that employers are seen as the basic problem and enemy to potential employees and the state is a wanted and necessary arbiter and support to all, not only unemployed citizens [14].

### **3.2 Level of education and position on the labour market**

As we stated in point 2, Croatia has continually had one of the lowest rates of life-long learning.

That is why it is, when we talk about competitiveness from the position of life-long education, necessary to present the university of applied sciences as an institution where one can acquire knowledge which would drastically improve their position on the labour market. A smart network of high education institutions achieves making education into not only its own purpose but also education having a purpose of achieving new knowledge and skills to be applied in the future employment of young people. Mataković has a different viewpoint. He considers that the percentage of young people who are out of work in Croatia is irrelevant for people with higher, and especially those with a high, degree of education because, at the age of 24, half of them are still in school while others only just finished it. The abovementioned percentage of unemployment of the young primarily relates to those with a secondary school education who enter the labour market at the ages of 17-19 [15]. Therefore, he concludes that one of the basic prerequisites for solving the problem of a high degree of unemployment of the young is to encourage them to continue education. This, of course, agrees with the need for tertiary professions which was mentioned several times previously and they most often cannot be acquired with secondary school education.

What is left to be explored is the correlation between youth unemployment and high education.

Biavaschi *et al.*, researched vocational education and the labour market, with a special review of the German dual system of vocational education [16]. Their paper relates to the secondary school education, but it is also applicable to high education; the basic conclusion they make is that every labour market asks for a different approach to education. Therefore, the German dual system of vocational education is impossible to apply as successfully in other countries without the labour market being changed completely alongside education [16]. Vocational education must be adapted to the labour market in order to gain the most of it. The basic challenge is how to enable students to learn on the job and how to bring vocational education, which is still within the classroom, to the labour market. They conclude that the two prerequisites are: better institutional management and encouraging employers to take part in education [15]. In the time of crisis (in 2010), Spain and Ireland noted the greatest increase in the number of unemployed young people within the European union, while the lowest was noted by Germany and Netherlands [17]. Bell and Blanchflower also state that the traditional response of young people in recession is to exit the labour market and enter education.

This way, young people acquire new knowledge and skills, but a great number of them is also removed from the labour market i.e. the list of unemployed people [17].

In his conclusion, Bilić states that unemployment of the young people does not only affect them, but also society as a whole, whether it is the economic, political or social aspect. The number of taxpayers is reduced and the assignment of funds for social compensations is, therefore, larger and the drop in buying power of the population and demand for goods causes a reduction in production while hopelessness and resignation grow among the population. Inactive young people, in time, become socially excluded and feel isolated from the rest of the community [13]. On the one hand, we have a larger pressure on state-funded education and, on the other, a smaller number of taxpayers who are filling the budget. With the assumption that investments in education will pay off in the future and that young people will earn more and pay more taxes comes the momentary risk that society accepts, whether it is aware of it or not. The consequences can, therefore, be positive, but also negative in the sense of an increasing level of development in the system of education and a smaller number of young people to be educated.

#### 4. Conclusion

Universities of applied sciences have numerous comparative advantages in the life-long learning projects. Teaching programs of universities of applied sciences are focused in examples from practice and training of students. Such an approach can simply be repeated through training and education of adults, those who are unemployed and those who are employed but want to further educate themselves. At this time, it is clear that we will not fulfil the aims of the Europe 2020 strategy on the increase of inclusion of adults in life-long education. European funds provide significant aid in order to improve these trends. The final goal is to increase employability of workers, their efficiency, and the participation of people in economy in Croatia.

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## **Subcultures as a Specific Construct and their Role in Corporate Governance**

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### **Abstract**

An important aspect of the broad range of issues concerning the role of the cultural context in corporate governance is explored. The paper's focus is placed on identifying typical subcultural constructs in economics and more specifically in corporate governance and analysing their role in effective management.

The purpose of the author is to reveal the genesis and to evaluate the rationality and irrationality in the manifestation of subcultural constructs in corporate governance. The basic idea is that deepening the study of the cultural context favours the development of current conceptual models for the management of human capital, as well as the introduction of proper and adequate practices for effective corporate governance. The main thesis is that the specificity of the subculture problem fits in the context of corporate governance and plays a role in its adequacy and effectiveness. By accepting this view, it could be implied that these elements are identified and analysed.

After all, the options for overcoming the negatives caused by the subcultural elements could be viewed as realistic or not realistic in the current Bulgarian business environment, given the socio-anthropological dominant.

*Keywords: Social anthropology; Corporate culture; Behavioural economics; National cultural matrix; economic subcultures*

### **Introduction**

In many different situations, the behaviour of real economic agents is either limited rationally or obviously irrationally. Reasoning and explaining this fact would contribute to the adequate management of human capital at the corporate level. At the same time, a significant challenge could be finding its own solution, or at least creating opportunities for its adequate interpretation – the

phenomenon of deviance and its consequences. All deviations and specifics that transcend the boundaries of their own ethos become determinants of bad practices, poor strategic decisions, and subsequent ineffective results. Some scholars, mainly in the field of sociology, point at social anomie as the main cause [1]. The author's view is that the anomie itself is dictated by the insufficient focus and comprehension of the socio-cultural context, within which the rationality – irrationality interaction is manifested. When this context is neglected in the business, the consequences for the business unit, its “life” and development are called into question. The failure to consider the context is an essential prerequisite for the unfolding of irrational actions in which individuals make economic choices with poorly defined preferences. This choice is referred to by behavioural economists as a “constructing preferences” [2], [3], which reflect deviations from rational choice theory by “modelling” preferences.

The culture of the individual business unit includes a set of characteristics that determines its unique nature and the ability of individual members of the company to identify them through it. The values that determine the behaviour of the company build its culture and direct its activity. [6]. This conclusion once again confirms the fundamental question whether corporate culture is ultimately rational in nature and rationalizes the behaviour of corporate structures or, on the contrary, has encoded irrational components in its nature and must be managed and directed in a specific way in the process of the corporate governance.

Here, so far, although positive dynamics has been established and confirmed, both the “strong” and the “weak” corporate cultures are determined by the national specifics, and it is still quite difficult for the national “mind programming” to yield in front of the company's “software” (especially in the case of Bulgaria).

Obviously deviant manifestations are diverse and sometimes ambiguously interpreted. In principle, deviation is defined as a manifestation of irrationality, but in certain situations, especially typical in the case of uncertainty about socio-anthropological dimensions and their combination at different levels, deviance may be observed in some rational actions. In this sense, deviance itself should be defined more as a reason for anomalies, not vice versa. We tend to perceive deviance as a supreme abstract category that has different pragmatic manifestations that can be identified on the basis of social empirics.

## **Rationality and Irrationality of the Culture**

As mentioned several times [4], the culture is a dichotomous system of rational and irrational components that, with good business traditions and philosophy of business structures, can be managed and contribute to greater efficiency, but at the same time, could lead not only to deviance, but also to the undesirable and difficult to overcome negative manifestations of human capital in a corporate environment.

As mentioned above, the values connected to the behaviour of a company shape its culture and guide its activity, which is in fact a behavioural formalization and is largely dependent on the validation of specific practices [5], [6].

In the presence of suitable specialists, any company or corporation could develop partial and specific conceptual models for mastering and even managing irrational manifestations in the national-corporate culture, taking into account the character manifestations and conceptualization of the reciprocal links between social capital and cultural dimensions.

Values and norms are not the result of discretionary or informal bargaining, but are passed on from generation to generation through the process of socialization. In the established values and norms, habit and tradition are of greater importance, and this statement is also valid for the manifestation of human capital at the corporate level.

The thesis that subjects of economic behaviour are not strictly rational beings to appear in various representatives of orthodox or heterodox economic doctrines, but finds definite expression in behavioural economics. As emphasized by the author [4] economic entities, in addition to rational

ones, can also be irrational in their behaviour: they are subject to emotions, intuitions, beliefs, sometimes they are short-sighted, and on the other hand, moral and social norms provoke in them loyalty, empathy, solidarity, that is, they do not aim solely to increase their own economic gain.

This fundamental feature – business maturity that is relevant to business culture – is seen as a rational factor for corporate governance, but at the same time, irrational behavioural dimensions are also emerging when it is endorsed. In some cases, they can play both a positive and a negative role, precisely because maturity of business refers specifically to the interrelated National Cultural Dimensions and Organizational Cultural Dimensions (NCD and OCD) as its parameters.

In the process of shaping individuals' behaviour, social identity plays a significant role. In the presence of significant social capital, i.e., strong social ties and high levels of mutual trust, the sense of social identity intensifies and the impact of other behaviours on individual behaviour increases.

Thus, social norms and individual behaviours are mutually conditioned in the process of continuous development and change. And this is especially important in determining the priority values that underpin an organizational culture. The introduction of behavioural heterodoxy has a potential application in the corporate governance. For example, when a behaviour qualifies as undesirable, it could be penalized by anticipating the appropriate effect, depending on how the subject evaluates the penalty.

Practically, there are several dissimilar methods to explain individual behaviour, which is explored as a reaction to the personal motivators and external stimuli through the implementation of adequate motivational techniques by the management team. According to various theories of needs, internal imbalance gives the individual behaviour purpose and direction.

### **Conceptualizing Subcultures in the Context of the National Cultural Matrix**

Subculture creates an identity different from that attributed to official and established socio cultural institutions. In defining a subculture, it is often emphasized that its values are different from those of the more widely accepted culture to which it belongs, but this definition is not universally recognized.

If carriers of a subculture are seen as a subordinate group with regard to the followers of a dominant culture, this creates hostility. The relevant subculture can become a systemic opposition to the dominant culture and then it is considered to be an opposing subculture.

The combination of the NCD (National Cultural Dimensions) and the OCD (Organizational Cultural Dimensions) in a formal environment generates in a peculiar way subcultural constructs, the most prominent of which are: interest groups /lobbies/ influence groups, subculture of motivation and demotivation /motivated and demotivated/.

The manifestation of the NCD in the informal structure reinforces this generated mechanism and shapes these subcultural groups accordingly.

With regard to interest groups: even with not particularly strong social capital down the line:

**Trust /empathy/ ----- Trust /recognition of the leader/, the combination of NCD and OCD favours the creation of such a subcultural construct.**

With respect to the groups of influence: their formation and imposition is mainly the result of the relation:

**Collectivism, Great power distance ----- Orientation towards the work; Orientation towards the process.**

The subculture of the motivated and demotivated segment is the result of the link between:

**Collectivism, Great power distance, Stress ----- Bureaucracy, Orientation towards the work, Orientation towards the process.**

Several types of orientation (similar to analyses in political science), could be identified as the result of observations and studies in a corporate environment and they could determine the conceptual format for further studies in general:

### **1. Orientation to Institutions, Norms and Rules**

This kind of orientation will analyse the perceptions of the institutions, respectively the rules and regulations, taking into account the organizational cultural dimensions, identifying the profile of an organizational unit and the manifestation of national cultural dimensions, especially power distance, individualism or collectivism, stress in cultural context.

### **2. Economic Policy Orientations**

In this type of role, the role of the researcher is quite delicate, because it is confronted with attitudes from an early age, political orientations and moods, as well as in many cases the negative influence of electronic and social media, propaganda, misinformation or the simple misunderstanding of principles and conceptual models launched in public space.

### **3. Orientations to Economic Entities and Groups**

Orientation towards economic agents and groups is in fact a complete manifestation of symbiosis between different types of cultural dimensions, regardless of which one has a particular dominance.

Of particular importance here would be the analysis of the softness or firmness of the culture, combined with its degree of stress, mainly in relation to the manifestation of tolerance towards particular groups or individuals in the corporate environment.

### **4. Orientation to the Inner or Outer Patron**

According to this indicator, the analysis should focus primarily on the meter of power distance and on individualism/collectivism as national cultural dimensions, which in a specific way influenced the characteristic organizational cultural dimensions. In this sense, identifying subcultural constructs along this axis would give a detailed picture of the various components of the business unit's management profile.

### **5. Orientations to the imposed managerial style/discretionary or advisory/and the results of its functioning in Bulgaria**

This indicator is directly related to the above but may provide more specific information on the generation and survival of some of the corporate subcultures under study.

### **6. Orientations to the role of the Manager /leader/**

In this aspect, the focus should be on the strength and role of corporate social capital. The manager's analysis will be done after appropriate interviews and research, but unfortunately, in many cases, he is the bearer of negative subcultural constructs in different business units, especially where the organizational culture is still strongly linked and dependent on the national business matrix.

### **7. Orientations to the Personal Role and Participation in Organizational/Corporate Processes**

According to this indicator, in organizational cultures that have overcome the direct influence of the national cultural genotype, all possible subcultural constructs should be sought in connection with the individual abilities of the members of the individual teams and of the whole business community to impose and lead the production and communication processes. In the case of Bulgarian economic specifics, subcultural constructs different in their type and manifestation can be identified and analysed along this line. The role of the individual is the main focus in combining the cultural dimensions on which the authors are based in identifying cultural specificities. That personal ability to participate – fully/partially, satisfactory/unsatisfactory, etc., is directly dependent on the attitudes of leaders/managers/and individual team members, as a reflection of established socio-anthropological determinants.

Most authors who use the term “economic subculture” do not make definitions, but take it for granted, with the meaning of tacit agreement. In most cases, clarity comes from context analysis. As it has become clear above, these are those smaller groups that consciously or not, rationally or

irrationally, place profiling determinants in which the components of the national cultural matrix, with a prominent role in the corporate environment, are placed, namely, values, language or religion, lifestyle, ethnicity, region, etc. The research focuses on the analysis of attitudes towards the economic system as a whole or its elements, as well as towards the separate entities as participants in the business processes.

The main directions, which should be formulated and analysed in accordance with the economic specifics and the characteristics of the business unit, the thematic blocks, within which the problems are formulated in general and certain questions are asked, could be defined as follows:

1. Social identity, rational and irrational behaviour in the organization: value system/based on discretion or informal negotiation.
2. Differential interaction analysis – dominance of the informal nature of communication, including political biases, social cause, taste preferences.
3. The essence of subcultures – as role cultures, manifesting the informal grouping in the business environment, as well as outside of business contacts.

However, it would be good to emphasize that the actions of culture are long-term and multidirectional. It is a multidimensional concept whose social function is to stabilize the social community by providing standards for performing basic actions, assessing and sanctioning deviations. In this context, subcultures develop specific ways for encoding and decoding the meaning of information norms, of communication, of a hierarchy of values. In order to identify a subculture, it must confront the culture, the analysis being directed to determine whether these specific constructs always oppose or complement it in a peculiar way, but given that this fact sometimes leads to additional deviations or anomies.

The development of modern economic relations and social life in all its diversity is increasingly linked to the development of institutions (in the broad sense of the word), to the institutional rules imposed and applied as a result of the hidden conflict between rationality and irrationality in human behaviour.

A multifaceted analysis of economic / corporate culture requires a deep insight into the cultural context, incl. in the specifics of subcultures formed at different company/corporate levels. The essential question is to what extent the manifestation of subcultural constructs creates rational and irrational prerequisites for optimal or deviant corporate governance. These issues require adequate interdisciplinary analysis that would lead to the development of an algorithm for building good practices on corporate human capital management. Laying the foundations of such an algorithm, whose format is based on the derivation of certain orientations, is the main purpose of the author in the present studios, which sends a message for a deep insight into the role of the cultural context in contemporary corporate processes.

Traditionally, in some countries, scepticism about the importance of business anthropology and behavioural economics, in particular at the corporate level, has been increasingly damaging in attempts to optimize corporate governance and the business environment. From a number of researches of the author, both individually and in teams, it has become clear that the business environment (in Bulgaria) bears a unique but not particularly positive characteristic, namely the extremely slow overcoming of the established strong dominance of the national cultural dimensions over the organizational cultural dimension, which directly affects the image of the economic structure and its social reputation. This yet-to-be-overcome “business anomaly” is manifested in specific corporate governance models, where the generation of subcultural constructs, at this stage, further complicates the construction of efficient and innovative economic structures.

As mentioned, the quality of the corporate culture is directly related to the manifestation of the business maturity [4]. When examining the genesis of social capital and even exploring religions and social-cultural knowledge, it is clear, that the social capital is very often formed through hierarchical structures, suggesting authoritarianism, imposing norms and expecting obedience, because of a few irrational reasons. In these cases, values and norms are not the result of decentralized and informal

bargaining; they are transferred from generation to generation, through a process of socialization where habit and tradition have a greater role than reason.

In this sense, the formulation and implementation of good practices focused on identifying different types and influences of subcultures at the corporate level, the manifestation of the micro-level social capital, is both a generalized and a very specific process for each business unit. Generally speaking, the universalization of good practices at the established level of business maturity is not feasible.

## Conclusion

The idea of “subculture” is an attempt to understand the various forms of self-expression of people belonging to a subculture, by offering an insight into the dynamics of relationships between them and by asking questions about internal “subcultural competence”, unifying ideas and styles. These issues are mainly addressed through an “inside look” and are based on original fieldwork in the respective micro-cultures.

The social communities in which the subcultures are modelled are family, street environment, school, university, workplace, interest club or sports team, etc. Later, subcultural experience is opposed to the creation of an individual unique distinctive style that is difficult to boil down to group values, behaviours and fashions. Therefore, subcultures can also be conceived as patterns of identity that the individual resorts to at one time or another in his or her life, between which he or she moves more or less freely and from which he or she draws on personal experience.

Regardless of the direct connection between specific corporate cultures, subcultures are at the same time self-constructed constructs that can provoke different corporate/social/anomies that, as stated above, lead or self-generate deviations in corporate /social/behaviour.

Under some conditionality, the concept about the differential interaction stems from the realities of community formation and existing in reality, which are dominated by the informal nature of their communication. They may be united by common or similar ideological and political biases; from a certain social cause; taste preferences for leisure behaviour; from the pursuit of some kind of collectibles.

The subculture of managers, for instance, is a very interesting field for manifestation of the extraordinary in the outlook on life, of the eccentricity and peculiarity of the characters, of freedom in holding. Informal contacts between business men and women facilitate their very serious and subsequently contractual relationships. Different forms of grouping and differentiation of the organizational subculture are possible. Its main layers are: informal groups in the work environment and informal, spontaneous contacts in the workplace.

The existence of subcultural connections in the organization is argued from a new perspective by the thesis that human motives and aspirations occupy a central place in business life, and that the ideal, rather than the material goals and incentives are often leading. The tendency to humanize business is linked precisely to the growing role of informal entities in formal organizational structures.

These communities are able to meet the professional, communicative and existential needs of their members. But this holds true because such groups are built under the influence (usually counterbalanced – as normal reflection) of official life.

In such cases, informal contacts appear as an extension of the service subculture in the sense that they are already more specific in terms of rest, play, relaxation.

As a result of numerous studies, it can be proved that as typically for our (Bulgarian) national cultural matrix remain: collectivism /fertility/, great power distance, high stress, more feminine culture/in direct relation to the first dimension – collectivism, low degree of satisfaction. Regarding the organizational culture, regardless of the specific characteristics of individual business structures, the main characteristics are manifested: bureaucracy, work orientation (not employees), process orientation (not results), and liberal control. [7], [8], [9], [10]

Obviously deviant manifestations are diverse and sometimes ambiguously interpreted. In principle, deviation is defined as a manifestation of irrationality. We tend to perceive deviance as a supreme abstract category that has different pragmatic manifestations that can be identified on the basis of social empirics. The options for overcoming or even preventing it should be sought deep in the overlapping of cultural and sub-cultural disparities.

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## Accounting Information for Improvement of Cost Planning in Accident Insurance<sup>1</sup>

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### Abstract

Accounting information facilitates business analysis in previous periods and forms a basis for prediction and planning. Application of accounting information about costs of acquisition and expenditure for insured cases in accident insurance in the insurance market provides an information base for consideration of current, and prediction of future, annual market trends.

Prediction models, therefore, become a necessity in insurance company modern business practice.

By the research, a prediction model is obtained which, by application of accounting information about costs of acquisition and expenditure for insured cases, with the use of statistical and mathematical methods, enables estimates of annual costs of acquisition and expenditure for insured cases in the insurance market. By differentiating acquisition costs from commission costs and other acquisition costs, detailed information is provided about the structure of the accident insurance acquisition costs. By research and setting up of the model, accounting information is obtained about anticipated annual costs and expenses for claims and its application in insurance company business is demonstrated. The positions of earned premiums, acquisition costs, expenses for insured cases and number of accident insurance policies are thus encompassed by the model.

The aim of the conducted research was to develop a model which generates prognostic information for the needs of business management in accident insurance. The information provided by the model improves the processes of planning and prediction of costs of acquisition and expenditure for claims

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in the market and the model practicability is shown on the example of insurance company acquisition cost management.

*Keywords: accounting information, insurance companies, accident insurance, acquisition costs, commission costs, cost management*

## 1. Introduction

The main role of insurance is underwriting and provision of financial protection to the insured person, with payment of an insurance premium. [5]. Business performance of insurance companies depends on two components, namely performance in the businesses of underwriting and fund investment. Depending on whether costs are incurred in the underwriting business or outside the process itself, they are grouped into acquisition costs and administrative costs. Acquisition costs include costs which are created in the processes of insurance sales and underwriting. Costs of sales staff salaries, commission costs, promotion costs and costs related to the issue of policies come under acquisition costs [10]. Administrative costs contain costs associated to portfolio management, employee expenses and other material and non-material costs.

The business underwriter's/insurer's costs can be monitored in regulatory bodies' published reports about the situation and trends of the national insurance market. Those reports contain the overall level of costs realised by all insurance companies which operate in this market. The analysis of the published accounting information enables a comparison between insurance company cost efficiency and cost trends in the insurance market.

By calculation of indicators of the annual relationship between acquisition costs, expenses for claims and earned premium in accident insurance, shares of costs and expenses for claims are obtained in the earned premium in the insurance market. This information facilitates recognition of trends in the accident insurance market. Using scientific methods and accounting information from the insurance market, we began to develop a model for prediction of values of acquisition costs and claims expenses.

By application of the obtained information, planning of the acquisition costs and claims costs is improved, with included correlation between the earned premium and the number of accident insurance policies. By the research, the process of application of annual accounting information has been formed for the creation of planned accounting information about market trends. The process is illustrated of modelling, applicability and use for the accident insurance market in the Republic of Croatia.

## 2. Theoretical Hypotheses

Planning and decision making require estimation and prediction of market parameters by the insurance company management. For that purpose, combinations of statistical and mathematical methods are used in business analysis. The importance of collection and processing of statistical data about property and personal insurance emanates from the fact that the insurance business is based on statistical science and probability theory [3].

The regression analysis is a statistical method which is often used to explain the relationship between variables and is used in many fields of applied science such as statistical, actuarial, financial and economic studies [6]. The statistical method of regression analysis determines the existence of correlation between observed phenomena. By application of this statistical method, the movement of the value trend is found, depending on the changes in the analysed variables. This is how the relationships between two and more phenomena in the regression analysis are analysed, where phenomena are shown as dependent and independent variables. The independent variable affects the variability of the dependent variable and the dependent variable values change due to the changes in the value of the independent variable [1]. With the application of regression analysis, a regression

model is formed, which, among other things, facilitates the prediction of the dependent variable due to the change in the independent variable. The movement trend of the observed variables shows a dynamic mean value, expressed by the mathematical function for demonstration of the tendency for change.

Prediction of future insurance market trends is significant for many of reasons. The insurance industry is one of the more important economic sectors in developed countries. [15]. Based on estimates of future market trends, participants in the insurance market create their business strategies.

This is how, in the insurance company business, trends are estimated to determine the advantages which they can achieve in the insurance market. The estimate of future market trends must therefore be realistic, as trend prediction affects the decisions of all market subjects who base their undertakings on information about insurance market trends.

### 3. Research Methodology

The information published in the reports on statistical insurance market trends is an important source for all interested users. Such a collection of external information complements insurance company internal information sources obtained from accounting and non-accounting systems. Market trends are analysed and planned by means of comparison of external and internal information sources.

The comparison of insurance company business in relation to the national insurance market trends is carried out using publicly published annual and financial reports. By using such reports, the insurance company business is compared with the main competitors in the market. By application of this information, decisions are made about business activities, essential for realisation of planned goals.

Planning starts with an analysis of trends in the insurance market by types of insurance and an analysis of insurance business activity. Planned values are adapted to predicted insurance company trends and capacity. The plan should include all the variables in order to achieve business efficiency in the market. [9]

Accounting and financial models are considered to be the key tools for the management process [14]. Starting from the stated facts, the research was directed towards the development of a model for business improvement in accident insurance. Accident insurances are a type of insurance which covers a sudden occurrence which affects the insured person, resulting in bodily injury or death. [2].

The research field is the earned insurance premium, claims costs and acquisition costs in accident insurance, with the assumption that market movements will occur in line with the trend movement of the years analysed.

Annual amounts of paid claims and acquisition costs in the accident insurance market are put into relation with the annual earned premium so that the indicators can be adapted for use in insurance companies. By this procedure, the relationships between earned premium, claim costs and acquisition costs are obtained. Given that the acquisition costs are divided into commission costs and other acquisition costs, for the purposes of a more detailed information base for decision making, the indicators are calculated by the stated cost segments. The commission costs include paid commission for issued accident insurance policies, while other acquisition costs contain the costs of policy issue, advertisement costs, etc.

$$\text{Indicator of the ratio between claims costs and earned premium} = \frac{\text{claims costs}}{\text{earned premium}} \quad (1)$$

The indicator of the ratio between claim costs and earned premium expresses expenses for claims in a unit value of the earned premium, i.e., converted into relative amounts; it shows a claims cost share in the earned accident insurance premium.

$$\text{Indicator of the ratio between commission costs and earned premium} =$$

$$\frac{\text{commission costs}}{\text{earned premium}} \quad (2)$$

*Indicator of the ratio between other acquisition costs and earned premium =*

$$\frac{\text{other acquisition costs}}{\text{earned premium}} \quad (3)$$

The indicators of the ratio between commission costs and other acquisition costs in earned premium shows a share of commission costs and other acquisition costs in a unit value of the earned premium. Ratio indicators facilitate monitoring of costs of acquisition and claims expenses by unit value of the earned premium. In this way, comparison is enabled between the insurance market and insurance companies.

The research encompassed the period between the years 2007 and 2018, where, for each year, ratio indicators were calculated. Under the presumption that some more significant changes will not occur in the market which would lead to disruption in the accident insurance market, the ratio indicators were applied in the regression analysis. Regression analysis was used in the observed phenomena, where the change in independent variable affects the change in the dependent variable. Given that all variables were observed in time periods; the independent variable was time. Dependent variables, which are affected by the independent variable of time were the ratio indicators. So, regression trend models were used for prediction of change in the dependent variable ratio indicator in units of time.

The unit of time is the annual period and is an independent variable which affects the change in the dependent variable, i.e., analysed indicators. In this method of application of regression analysis, prognostic trend models were obtained.

The linear prognostic trend model was used for the prediction of ratio indicators, as it was determined that the observed variables had linear movement. The linear models are applicable as phenomena in insurance are observed through specific linear combinations of assessment variables [7]. The linear prognostic trend model is formulated with the expression [17]:

$$\hat{Y}_t = a + bx_t \quad (4)$$

$$b = \frac{\sum_{i=1}^n x_t y_t - n\bar{x}\bar{y}}{\sum_{i=1}^n x_t^2 - n\bar{x}^2} \quad (5)$$

$$a = \bar{y} - b\bar{x} \quad (6)$$

$$r^2 = \frac{\sum_{i=1}^n (\bar{y}_i - \bar{y})^2}{\sum_{i=1}^n (y_i - \bar{y})^2} = \frac{a \sum_{i=1}^n y_i + b \sum_{i=1}^n x_i y_i - n\bar{y}^2}{\sum_{i=1}^n y_i^2 - n\bar{y}^2}, \quad 0 \leq r^2 \leq 1. \quad (7)$$

$\hat{Y}$  – regression value of dependent variable of relationship indicator in observed time

$a$  – constant member for time estimate

$b$  – average increase in value of dependent variable in time

$x_i$  – time unit of one year

$r^2$  – determination coefficient

By application of regression analysis, trend model functions are obtained for each relationship indicator. The trend model of the ratio indicators of expenses for claims in earned premium facilitates perception of the share of expenses for claims per unit of earned premium and prediction of annual trends. Loss occurrence is a certain phenomenon; however, the expense per unit of earned premium can be predicted by means of the trend model and insurance company solvency can be managed in this way.

The trend model of the ratio indicators of acquisition costs in earned premium shows the share of acquisition costs per unit of earned premium. Acquisition costs, as opposed to claims expenses, are manageable in the segment of their optimisation. This includes undertaking of adequate actions with the aim to reduce acquisition costs by the same degree of underwriting volume, realisation of a higher degree of underwriting volume with constant acquisition costs or an increase of the volume of underwriting with disproportional increase of acquisition costs.

The advantage of the model lies in the fact that, with its application, prediction of expenses for claims per earned premium is enabled, as well as commission cost management and management of other acquisition costs in planned annual periods. By predicting shares of costs in earned premium, a parallel variable is provided for cost management in insurance companies. By the obtained information about the predicted shares of acquisition costs in earned premiums, the model improves insurance company business in the segment of costs. The structure of the obtained information is applicable for accident insurance in insurance companies and for the market trend analysis.

#### 4. Research Application

The initial data which was used in the research was accounting information about realised annual expenses for claims, costs of commission, other acquisition costs and the amount of annual earned premiums in the insurance market. The number of issued accident insurance policies was used to calculate the average earned premium per insurance policy. The data for the Republic of Croatia's market in the period between 2007 and 2018 was used for the application of the model.

**Table 1.** Earned premium, acquisition costs, claims expenses and number of accident insurance policies in the Republic of Croatia's market in the period between 2007 and 2018. (in kunas)

Year	Earned premium	Acquisition costs		Acquisition costs	Expenses for insured cases, net of reinsurance	Number of insurances	Average earned premium per policy
		Commission costs	Other acquisition costs				
2007	461,547,792	48,809,389	53,264,278	102,073,667	173,550,890	2,496,341	184.89
2008	505,905,771	44,480,122	33,941,727	78,421,848	161,359,148	2,595,489	194.92
2009	492,996,595	42,457,371	44,844,809	87,302,180	150,487,095	2,517,205	195.85
2010	490,381,635	38,142,196	58,528,140	96,670,336	129,727,070	2,524,004	194.29
2011	472,814,337	46,278,999	40,785,891	87,064,889	98,123,694	2,498,173	189.26
2012	468,118,083	48,437,222	42,015,222	90,452,444	103,269,410	2,453,536	190.79
2013	450,311,185	56,846,146	75,084,427	131,930,573	98,354,614	2,452,433	183.62
2014	423,655,749	57,321,688	75,173,717	132,495,405	86,375,297	2,343,688	180.76
2015	439,845,291	63,071,886	73,647,092	136,718,979	90,374,619	2,403,811	182.98
2016	436,666,847	66,195,396	93,447,460	159,642,856	89,157,152	2,433,183	179.46
2017	425,317,186	56,894,724	94,764,679	151,659,402	80,762,980	2,468,172	172.32
2018	439,470,050	62,689,525	105,300,493	167,990,018	83,664,055	2,617,372	167.91

Source: HANFA <http://www.hanfa.hr/HR/nav/106/statistika.html> (17.01.2020)

In the next step, share indicators were calculated. This process is necessary in order for claims expenses to be reduced to comparable values. Namely, values related to total amounts of earned premium in the market facilitate the calculation of the insurance company market share. Total amounts of expenses for claims and acquisition costs in the market also enable an insight into market share. However, for the calculation of the efficiency of business performance and cost management,

it is necessary to adapt information to a comparable value. Comparable values facilitate the comparison of realised values with market values and with values realised within the insurance company, as well as those of other competitors in the market. In this way, reference points are obtained for cost management. These reference points move in two directions of comparisons with the insurance market and comparisons with insurance companies.

When comparing insurance companies, it is necessary to compare companies with approximately the same asset value, as the insurance company's financial strength affects the realisation of operating results. The results per unit value, however, facilitate mutual comparison of insurance companies of all sizes, where indicator values differ depending on the value of insurance companies' assets. To the insurance companies' management, the indicators provide information about the performance of acquisition cost management and expected claims costs. Deviation from the market indicators regarding higher values of shares than the market shares points to the need to find measures for cost optimisation. Share indicators, therefore, have the role of comparison of indicators in insurance companies with the market, movement of market indicator trends in the following years and movement of indicator trends in insurance companies in the following annual periods.

**Table 2.** Shares of acquisition and claims costs in earned premium and average earned premium per accident insurance policy in the Republic of Croatia's market in the period between 2007 and 2018 (in kunas)

Year	xt	Acquisition cost shares		Acquisition cost share in earned premium	Expenses for insured cases, net of reinsurance	Average earned premium per policy
		Commission cost shares in earned premium	Other acquisition cost shares in earned premium			
2007	1	0.105751537	0.115403603	0.221155141	0.376019327	184.89
2008	2	0.087921752	0.067091005	0.155012757	0.318950993	194.92
2009	3	0.086121023	0.090963729	0.177084752	0.305249766	195.85
2010	4	0.077780637	0.119352226	0.197132863	0.264543084	194.29
2011	5	0.097879855	0.086261958	0.184141813	0.207531130	189.26
2012	6	0.103472231	0.089753468	0.193225699	0.220605471	190.79
2013	7	0.126237474	0.166738978	0.292976451	0.218414771	183.62
2014	8	0.135302514	0.177440569	0.312743083	0.203880858	180.76
2015	9	0.143395616	0.167438629	0.310834245	0.205469106	182.98
2016	10	0.151592448	0.214001728	0.365594176	0.204176598	179.46
2017	11	0.133770102	0.222809427	0.356579529	0.189888822	172.32
2018	12	0.142648003	0.239607894	0.382255897	0.190374874	167.91

Source: Authors' calculation according to Table 1. data

Based on the calculated indicators from table 2, and using the method of regression analysis, prognostic trend models were obtained. Two trend models refer to acquisition costs as, due to their significance, acquisition costs are monitored separately through commission costs and other acquisition costs. The trend model for cost prediction for insured cases shows a predicted share of expenses per unit of earned premium in the following years. The trend, expressed through the regression model, was thus used in the observed years for calculation of indicators of shares of claims expenses in the years 2019 and 2020.

The last trend model for prediction of average earned premium per policy facilitates the prediction of the amount of the average annual earned premium per accident insurance policy. From the value of the average annual earned premium per policy, obtained by the linear trend model, using predicted indicators for a 2-year period, the average annual amount of claims and acquisition costs per accident policy are calculated.

**Table 3.** Regression models for prediction of shares of acquisition and expenses of incurred losses in earned premium and of average earned premium per policy in the Republic of Croatia's accident insurance market

<i>Description</i>	<i>Regression model</i>	<i>Determination coefficient</i>
Trend model for prediction of commission costs	$y = 0.006084x + 0.076446$	$r^2 = 0.729708$
Trend model for prediction of other acquisition costs	$y = 0.014755x + 0.050498$	$r^2 = 0.802452$
Trend model for prediction of expenses for insured cases	$y = -0.014754x + 0.337994$	$r^2 = 0.774496$
Trend model for prediction of average earned premium per insurance policy	$y = -2.077383x + 198.257349$	$r^2 = 0.716773$

Source: Authors' calculation

Provided the trend of the observed variables of accident insurance in the Republic of Croatia's market moves according to the obtained regression models, values for the period of 2019 and 2020 are predicted. The calculated values are illustrated in table 4.

**Table 4.** Predicted indicators of shares of acquisition costs, expenses for insured cases per unit of earned premium and average earned premium per accident insurance policy in the Republic of Croatia in 2019 and 2020

<i>Year</i>	<i>Acquisition costs</i>		<i>Acquisition costs</i>	<i>Expenses for insured cases</i>	<i>Average earned premium per policy</i>
	<i>Commission costs</i>	<i>Other acquisition costs</i>			
2019	0.155538	0.242313	0.397851	0.146192	171.25137
2020	0.161622	0.257068	0.41869	0.131438	169.173987

Source: Authors' calculation

The indicator of the commission cost share is calculated using the trend model in the accident insurance market, equalling 0.155538 per unit of earned premium in 2019. The indicator of other acquisition costs equals 0.242313 per unit of earned premium. These indicators can also be expressed in relative figures which, for the year 2019, gives a share of 15.55% of commission costs and a share of 24.23% of other acquisition costs and which, in total, equals the predicted 39.78% of total acquisition costs from the earned premium value.

The indicators for the share of expenses for insured cases, net of reinsurance, equal 0.146192 and show the predicted ratio of paid claims per unit of earned premium. The relative amount shows that 14.61% of total annual earned premium will be paid for incurred losses per accident insurance.

According to the overall acquisition indicators and expenses for insured cases in 2019 it is expected that 0.544043 per unit of earned premium will be spent on expenses for insured cases and acquisition costs. Expressed in relative ratios, according to the accident insurance market trends, a total of 54.40% of earned premium will be paid for insured cases and acquisition costs, while the remaining portion of 45.60% will be used to cover the administration costs and other technical reserves. Following the settlement of all obligations according to the stated insurance type, the operating result will be determined. This methodology is also used for the year 2020.

**Table 5.** Predicted acquisition costs and expenses for insured cases per average earned premium in the accident insurance market in the Republic of Croatia in 2019 and 2020

<b>No.</b>	<b>Description</b>	<b>2019</b>	<b>2020</b>
1.	Average earned premium per policy	171.25	169.17
2.	Commission costs	26.64	27.34
3.	Other acquisition costs	41.50	43.49
4.	<b>Acquisition costs (2+3)</b>	<b>68.13</b>	<b>70.83</b>
5.	Expenses for insured cases	25.04	22.24

6.	<b>Total – Acquisition costs and claims costs (4+5)</b>	<b>93.17</b>	<b>93.07</b>
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*Source: Authors' calculation*

The average earned premium per accident insurance policy is obtained through application of the model and equals 171.25 kn., for 2019 and 169.17 kn., for 2020. Using the average earned premium and using the obtained regression models for prediction of share indicators, average values are calculated of acquisition costs and claims costs per insurance policy. Consequently, in the Republic of Croatia, a commission cost of 26.63 kn., other acquisition costs of 41.50 kn., i.e., total acquisition costs of 68.13 kn., can be expected per average earned premium per accident insurance policy. Using the same methodology, values for the year 2020 are calculated and equal 27.34 kn., for commission costs, 43.89 kn., for other acquisition costs, i.e., total acquisition costs in the sum of 70.82 kn. The expenses for insured cases per average earned premium per insurance policy equal 25.35 kn., for 2019 and 22.35 kn. for 2020.

Based on the information about the realised acquisition costs per unit of earned premium in the insurance market, insurance companies' management compare their own acquisition costs for this type of insurance. In insurance company business practice, annual plans are prepared of the earned premium and number of accident insurance policies, which are created based on demand in the market. The accounting information, obtained by application of the model, facilitate management of planned acquisition costs per earned premium, predicted amount of average earned premium per policy and elaboration of acquisition costs and expenses for insured cases in the accident insurance market.

This will be shown on the example of insurance companies' business for the planned earned annual premium in the amount of 10 million kunas for 2019. Acquisition costs and expenses for insured cases per planned earned premium in the market are calculated using regression models. The values of planned commission costs, other acquisition costs, expenses for insured cases and average number of insurance policies needed for the planned earned premium of 10 million kunas are shown in the table below.

**Table 6.** Predicted acquisition costs, expenses for insured cases and number of policies per planned earned premium of 10 million kunas for 2019

No.	Description	2019
1.	Planned annual earned premium	10,000,000
2.	Predicted commission costs	1,555,380
3.	Predicted other acquisition costs	2,423,130
4.	<b>Predicted total acquisition costs (2+3)</b>	<b>3,978,510</b>
5.	<b>Predicted expenses for insured cases</b>	<b>1,461,920</b>
6.	<b>Average number of policies needed for realisation of planned earned premium</b>	<b>58,394</b>

*Source: Authors' calculation*

According to the data from the accident insurance market, the planned earned premium of 10 million kunas will require acquisition costs of 3,978,510 kn., and claims costs of 1,461,920 kn. for realisation of the planned earned premium, 58,394 insurance policies need to be sold. For comparison of the predicted values, the applied methodology can be used in insurance companies in the way that the accounting information about realised acquisition costs and claims expenses in the insurance company are included in the regression model for the same covered year period. In this way, two sets of prognostic information will be obtained, namely, those from the insurance market and those from the insurance company internal accounting records.

The obtained information is compared to the acquisition cost plans, expenses for insurance cases and plans for number of policies. This facilitates consideration of planned values with the predicted costs and expenses in the national market and the insurance company predicted costs and expenses.

Successful acquisition cost management is achieved by consideration of insurance market trends and competition's business practices, with attainment of optimal cost values in the insurance company, for which the presented research completes the information.

## 5. Conclusion

Maintenance of business-acceptable levels of cost enables successful business performance and competitive position in the insurance market. Participants in the insurance market implement innovative strategies to realise planned business goals. Flexibility and preparedness for changes are the main characteristics of insurance companies which are ready for challenging conditions imposed by increasingly demanding policyholders, development of information technology and competition.

In such circumstances, cost management has a substantial influence on insurance company successful business performance and survival in the insurance market.

Reports on overall insurance market movement represent summary data about realised business volumes of all market participants. By application of this information, trends are considered of annual market movement. Insurance sales are made through sales channels. For the majority of sales channels, it is necessary to pay a commission per agreed insurance type. The sales channel market potentials change through periods and recognition of sales possibilities and realisation of new sales channels towards policy holders, based on new information technologies, enables a step forward in insurance company successful business performance. New sales channels, apart from opening new possibilities in insurance sales, facilitate acquisition cost reduction.

Considering the stated reasons, a need is stressed for research of new methods and models for management of insurance company business. The methodology in this research is directed towards acquisition costs and expenses per insured cases. The results of the conducted research facilitate consideration of trends and prediction of important business components in accident insurance.

Information about predicted trends of indicators of commission costs and other acquisition costs, as well as of expenses for insured cases in the accident insurance market, provides a parallel variable for insurance companies.

By application of the conducted research, three mutually comparable sets of information for the needs of planning can be formed. The first set of information relates to the accident insurance market which is processed in the research. The second set of information is obtained by use of the presented methodology, with the application of accounting information about insurance company acquisition costs and expenses for losses. In this way, by comparison of the first and second sets of information, predicted values can be linked of the insurance company and insurance market. The third set of information is obtained by application of the methodology and use of accounting information about acquisition costs and expenses per insured case in the main competition's publicly published annual reports. Mutual comparison of all three sets of information facilitates consideration and planning of insurance company acquisition costs and expected expenses for insured cases in line with the market and the competition.

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## **Knowledge Workers' Identities at the Beginning of their Professional Development: Evidence from the Medical Profession**

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### **Abstract**

The identities of knowledge workers are shaped by organizational-level factors and by attributes of their occupation. Therefore, we distinguish between professional workers' organizational and professional identification. Organizational identification is considered as a powerful construct having the potential to influence organizational behaviour. This concept was examined both in profit and non-profit organizations and proven to be a powerful predictor of various job-related attitudes and outcomes. Although the professional workforce and knowledge-based workers are becoming more important in the global knowledge economy, the concept of professional identification has been understudied in social identification literature. Given that the identification is a dynamic process, especially intriguing is the question of how organizational and professional identities interact at different stages in a professional workers' career. The purpose of this paper is to examine the organizational and professional identities of knowledge workers at the beginning of their professional development. Organizational and professional identification have been relatively understudied in the university context and this paper tends to fill the literature gap by examining individual and group-level antecedents to identification with the university and medical profession. Several important findings emerged from our analysis. Consistent with the previous studies, our results indicate that levels of organizational and professional identification are correlated. Furthermore, our results show that knowledge workers experience a stronger sense of belonging to their profession at the beginning of their professional development. Finally, we provide insightful findings on the individual and group-level identification antecedents.

*Keywords: knowledge workers, medical profession, organizational identification, professional identification*

## 1. Introduction

Individuals hold multiple identities within the organizational environment [17], [22]. The identities of knowledge workers are shaped by organizational-level factors and by attributes of their occupation.

Therefore, we distinguish between professional workers' organizational and professional identification. Organizational identification is considered to be a powerful construct having the potential to influence organizational behaviour. This concept was examined both in profit and non-profit organizations and proven to be a powerful predictor of various job-related attitudes and outcomes [17]. Although the professional workforce and knowledge-based workers are becoming more important in the global knowledge economy, the concept of professional identification has been understudied in social identification literature. This remains the case despite professional identification was confirmed as an antecedent to outcomes such as organizational commitment and job satisfaction [15].

Given that the identification is a dynamic process, especially intriguing is the question of how organizational and professional identities interact at different stages in a professional workers' career.

Medical doctors are considered to be highly professional occupations and therefore represent a particularly insightful area for gaining a deeper understanding of this subject. This paper aims to contribute to the literature on organizational identification by providing empirical evidence on the antecedents and the relationship between organizational and professional identification of medical students. Our main assumption is that both forms of identification are fostered by the organization (university) and individual level antecedents, as well as that students relate differently to their university and the profession.

The structure of the paper is as follows. First, we provide a theoretical background on the concepts of organizational and professional identification, particularly focusing on the interdependent nature of their relationship, as noted in the previous studies. Then we present findings of an empirical study using a sample of medical students of the largest and oldest medical school in Croatia. We then outline the potential limitations of our study and propose an agenda for further research. In the final section, the implications for higher education institutions are discussed.

## 2. Theoretical Background and Research Problem

Organizational identification has long been in the focus of organizational behaviour scholars and among the firsts to define this concept were Ashforth & Mael in 1989. Drawing on the social identity theory, organizational identification is defined as the perception of oneness with or belongingness to a group [1]. Social identity theory remains one of the most dominant approaches to the study of organizational identification, represented among some of the most influential studies in the field [5], [17], [25]. Organizational identification represents the underlying bond between an individual and his organization as it was demonstrated to be related to numerous important organizational outcomes such as job involvement, employee performance and turnover rates [8], [16], [13]. In the context of non-profit organizations, organizational identification proved to be related to leadership practices [3], perceived organizational image [21], loyalty [2] and philanthropic behaviour [19].

A growing body of literature points to the existence of multiple identification foci in an organizational environment such as team and workgroup level factors, organization-level factors and profession or occupation related factors [14], [10], [20]. Somewhat the understudied form of identification is professional identification which refers to the extent to which a person experiences a sense of belongingness to his profession and recognizes themselves in their professional values [7].

Even though professional identification has been less examined compared to other identification profiles, it is considered to be an important construct having the potential to influence knowledge workers' job-related behaviours [15]. For example, Garcia-Falières & Herrbach [7] shown that

auditors who are highly identified with their profession more frequently experience negative emotions in their work environment. Further, highly professional occupations such as lawyers, engineers, and medical doctors differ from less professionalized occupations in terms of their specialized education practices and society perceives them as individuals with a unique and valuable set of skills. Such professionals are expected to sense a stronger sense of belonging to their profession than members of other professions [15].

Previous studies confirmed that organizational and professional identifications are correlated [7], [24]. Examining employees of a daily newspaper company, Russo [23] demonstrated that journalists identify more with their profession than with the companies they work for. However, her results further demonstrated that organizational identification is a better predictor of job satisfaction. Further, levels of professional and organizational identification are confirmed to be a predictor of the adaptation of new work behaviours, namely medical doctors are found to be willing to adopt new work behaviour when they are weakly identified with their profession and strongly identified with their employing organization [9]. Johnson *et al.*, [11] demonstrated that veterinarians identify differently with their profession, organization, and workgroups, as well as that the level of identification, depends on veterinarians' employment status. Their results suggest that veterinarians employed in non-veterinary organizations identify more with their profession and workgroup.

Studies on organizational and professional identification are usually set within the corporate environment and only a small proportion of authors examined identification among the university students. Identification is not a fixed construct but a dynamic psychological state that evolves and changes over time and it has proven to exist even among potential students without formal university membership that had no previous interaction with universities they plan to attend [26]. Identification with profession occurs long before the professionals join their employing companies [23]. For most professionals, feeling of belongingness to their profession is expected to emerge in schools when they are first familiarized with the profession's norms and attributes and it is expected to evolve through different career stages [15].

Given that identification in the early stages of professional development has been understudied in previous literature this paper aims to examine which factors contribute to a strong identification with university and profession among medical students, as well as whether there are differences between these two forms of identification. Our first assumption is that the level of professional identification among medical students is higher than the level of organizational identification. We support this claim by the fact that higher levels of professional identification have been confirmed within professionals in advanced career stages as well. In line with the call for a further investigation of identification antecedents in different organizational settings [22], we examined two sets of identification antecedents: (1) organization-level antecedents and (2) individual-level antecedents. As a strong organization level antecedent, we propose student satisfaction with the university (school). We assume that the level of satisfaction with the university has the potential to influence the intensity of both organizational and professional identification, namely that level of satisfaction is positively related to both forms of identification. We further propose a set of different individual-level antecedents comprising: (1) student's demographic characteristics, (2) university tenure, (3) academic success, (4) time spent at university facilities, (5) learning efforts, (6) membership in student associations, (7) investing time in professional development, (8) having a close family member who studied at the same university and (9) having a parent who is a medical doctor.

### 3. Methods and Sample

Data was collected through online questionnaires developed at the TypeForm online platform.

Questionnaires were distributed to students of the largest Croatian public medicine school – Zagreb school of Medicine, University of Zagreb, and data collection took place during December 2018. Organizational and professional identification (OID & PID) were measured on Mael & Ashforth's [17] 6-item instrument on a 5-point Likert scale (1-strongly disagree; 5-strongly agree).

Item examples are: “When someone criticizes my profession, it feels like a personal insult” and “When someone criticizes my school, it feels like a personal insult”. Student satisfaction (SAT) was measured on modified Douglas, Douglas & Barnes [4] instrument containing 5 items on a 5-point Likert scale (1-strongly disagree; 5-strongly agree). Students expressed their level of satisfaction with the following attributes: (1) teaching staff friendliness, (2) teaching staff approachability, (3) teaching staff competencies, (4) overall friendliness of the school’s environment, and (5) quality of school’s classrooms and equipment. Grade point average (GPA) was used as a measure of a student’s academic success. The effort was measured as the average time student spends learning per day, and to assess whether students invest their time in professional development, we asked them about participation in conferences and workshops outside the school’s curriculum. Data analysis was carried using the SPSS statistical software package.

We chose not to study freshmen students but students with longer university tenure. The final sample for our study was composed of 279 students, 64,9% of them being females and 35,1% males.

The average age of our respondents was 22,3 years and the majority was in their fifth year of study (26,9%). The majority of our respondents were born in the city where the medical school is located (51,3%), and 16,49% of all respondents lived in a dormitory. A large proportion of respondents had a close family member studying the same medical school (20,1%), and 15,4% of them had a parent who is a medical doctor. Most of the respondents had a GPA ranging from 3,6 to 4,0 (26,2%). On average, the respondents spent 24,4 hours per week studying while 32,3% of them regularly studied in the school’s library. In the past academic year, 68,82% of our respondents attended at least one workshop, lecture or conference outside the school’s curriculum, and 70,3% of them were regularly engaged in some kind of physical activity in their spare time. The majority of the respondents from the sample (63,8%) spend 4-6 hours in school facilities per day, and 69,2% volunteered in student associations or worked as student assistants. In total, 65,23% of our respondents considered themselves to be successful above the average.

**4. Results**

Table 1 presents the descriptive for the key variables in the analysis.

**Table 1.** Descriptive

	N	Mean	Std. Deviation
OID	279	2,897252	,8860964
PID	279	3,258659	,9706433
SAT	279	2,954004	,7253636

The results indicated to higher intensity of professional compared to organizational identification. Further, we looked at the correlation between the observed variables.

**Table 2.** Correlations

		OID	PID	SAT
OID	Pearson Correlation	1	,692**	,273**
	Sig. (2-tailed)		,000	,000
	N	279	279	279
PID	Pearson Correlation	,692**	1	,155**
	Sig. (2-tailed)	,000		,009
	N	279	279	279
SAT	Pearson Correlation	,273**	,155**	1
	Sig. (2-tailed)	,000	,009	
	N	279	279	279

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

The Pearson correlation coefficient indicated a moderate correlation between organizational and professional identification ( $r=.273$ ;  $p<0,01$ ). The results also showed that student satisfaction is weakly correlated to both organizational and ( $r=.273$ ;  $p<0,01$ ) professional identification ( $r=.155$ ;  $p<0,01$ ).

Further, a dependent (paired) samples *t*-test was performed to examine whether there are significant differences between two forms of identification.

**Table 3.** Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	OID-PID	-,3614068	,7327222	,0438669	-,4477604	-,2750533	-8,239	278	,000

Test results ( $t_{(278)}=-8,239$ ,  $p=0.000$ ) provided evidence to statistically significant difference in identification with organization ( $M=2,897$ ,  $SD=.886$ ) and profession ( $M=3,259$ ,  $SD=.9706$ ),  $t(278)=-8,239$ ,  $p=0.000$ .

Next, Analysis of Variance (ANOVA) was used to examine the individual-level identification predictors. The results showed that there were no differences in the intensity of organizational and professional identification considering respondents' demographic characteristics (age and gender), university tenure, academic success, time spent at university facilities, learning efforts, and membership in student associations. Having a close family member who studied at the same university and having a parent who is a medical doctor also didn't prove as significant identification antecedents. Investing time in professional development proved to be the only statistically significant identification predictor. Table 4 shows the identification scores for the groups of the respondents concerning their professional development activities.

**Table 4.** Professional development activities descriptive

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
						Lower Bound	Upper Bound		
OID	yes	192	2,928820	,9036616	,0652162	2,800183	3,057456	1,0000	4,8333
	no	87	2,827585	,8469600	,0908036	2,647073	3,008097	1,0000	4,5000
	Total	279	2,897252	,8860964	,0530492	2,792823	3,001681	1,0000	4,8333
PID	yes	192	3,348954	,9324423	,0672932	3,216220	3,481687	1,0000	5,0000
	no	87	3,059387	1,0277118	,1101823	2,840352	3,278422	1,0000	5,0000
	Total	279	3,258659	,9706433	,0581109	3,144266	3,373052	1,0000	5,0000

**Table 5.** ANOVA (Professional development activities)

		Sum of Squares	df	Mean Square	F	Sig.
OID	Between Groups	,614	1	,614	,781	,378
	Within Groups	217,663	277	,786		
	Total	218,276	278			
PID	Between Groups	5,020	1	5,020	5,413	,021
	Within Groups	256,897	277	,927		
	Total	261,917	278			

Our results showed that there is a statistically significant difference in professional identification among students who have invested their time in professional development activities ( $M=3,349$ ;  $SD=.932$ ) and those who didn't ( $M=3,059$ ;  $SD=1,028$ ). However, the same was not the case for organizational identification.

**5. Discussion**

Several important implications emerged from our findings. First of all, consistent with previous studies [12]; [7], our research indicates that the level of identification with the organization (school) and the medical profession are correlated. Such a relationship can be explained by the fact that, in highly specialized occupations, identification with the organization stems from the extent to which the organization can provide members with the opportunity to develop professionally [12].

Furthermore, the results indicate that medical students identify more with the medical profession than with the medical school which leads to the conclusion that knowledge workers feel a strong commitment to their profession even before they start their professional careers.

Furthermore, the research provides insightful findings on the individual and group-level identification predictors. The results indicate that student satisfaction was shown to be correlated to both forms of identification. The results are consistent with earlier work of Mael & Ashforth [17] who demonstrated that alumni identify more strongly with the university when they are more satisfied with how their study expectations were met. Further, Myres, Davis, Schreuder, and Seibold [18] showed that the same applies to undergraduate students as well.

Contrary to expected, most of the proposed individual-level antecedents didn't significantly influence identification levels. Investing time in professional development was shown to be an important identification predictor and students who participated in activities intended for additional education and training such as workshops, conferences, and lecturers were more identified with their profession.

There are several limitations to our study. Firstly, the study was conducted among students of only one school (one profession) and that is why the generalization of our results is to some extent limited.

Further, levels of organizational and professional identification were obtained based on the cross-sectional data and therefore we were not able to capture the dynamic nature of these constructs. The potential limitation is also the nature of obtained data which is all self-reported and as such opens the question of respondents' objectivity. Aiming to gain a deeper understanding of the relationship between organizational and professional identification, we left some questions unanswered but also generated several new ones to be considered. First, to overcome some of the encountered limitations we call for future researchers to use longitudinal studies and more diverse samples (e.g., different professions). Also, a more complete understanding of the observed phenomenon could be achieved by applying adequate qualitative research methods. Furthermore, our results suggest that future research should focus on a more detailed examination of individual-level predictors such as student motivation and career aspirations.

Regardless of the aforementioned limitations, this study adds to the literature on organizational and professional identification in several ways. Firstly, the study provides empirical evidence on the relationship between organizational & professional identification of collage students which was neglected in previous studies. Our results indicate that educational institutions play an important role in professional workers' identity formation. Further, following calls for examining a new set of identification predictors in different organizational environments, we have shown that factors such as students' desire to develop professionally and improve their skills are an important indicator of a professional identity. This is an important finding that contributes to a better understanding of the university-student relationship. Universities likely have the potential to influence students' identities allowing them to grow professionally by providing a range of extracurricular activities in their capacities.

## 6. Conclusion

The current study advances our understanding of organizational and professional identification of knowledge workers. The major findings of this study are that the intensity of organizational and professional identification differs significantly among medical professionals at the beginning of their professional development. Furthermore, this study demonstrated that student satisfaction is a

significant predictor of both forms of identification. Our findings further imply that universities can shape the identities of their students through their extracurricular activities. Thus, our study contributes to a better understanding of the relationship between universities and students. To conclude, we believe that results are beneficial for academic policymakers as they indicate that universities have the power to strengthen their bond with their students and create long-lasting mutually beneficial relationships.

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## Determinants of Migration to the European Union and Integration Strategies: A Two-Fold Cluster Analysis

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### Abstract

Nowadays, Europe is facing a major challenge brought by international migration, through its economic and humanitarian dimensions. This paper is set out to design distinctive immigration clusters for the most important ten migrant host economies within the European Union (EU). The research endeavour is based on two scenarios corresponding to migrants' decisions and expectations at destination related to economic growth and labour market outcomes. We've applied the cluster analysis hinge on the Ward method and Euclidean distance on a balanced panel compiled for EU-10 migrant-receiving countries during 2000-2015. Cluster results revealed the prevailing position of Germany as the main host country relative to economic welfare, while the Nordic States (Denmark, Sweden, Finland) were preferred when it comes to employment opportunities. We further outline several feasible mechanisms and appropriate policies for immigrants' labour market integration, with benefit spill-overs on the sustainable economic development of EU-10 host countries.

*Keywords: Migration, European strategies, cluster analysis, welfare, labour market outcomes*

### Introduction

International migration is a dynamic and multifaceted phenomenon with strapping economic, social and demographic effects on migrant-sending and receiving economies, regardless of the

geographical area examined. Through its complexity, migration grasps important challenges for the European economies, bringing both benefits and pitfalls. Hence, the public discourse and policymakers' uptake the keen need to strengthen the understandings in this scientific field.

After "the financial and economic global crisis and the difficulties in overcoming this period" [1] (p. 365), Europe is now confronting with a major challenge induced by the international migration, in the framework of globalization, widely shaped by the socio-economic developments, the geopolitical circumstances and heightened interdependencies between the economies [2]. More precisely, Europe is facing *a double challenge* in terms of international migration: (*1<sup>st</sup>*) emigration from the European developing countries (from Central and Eastern Europe, CEE) continues in an upward trend, these countries having a significant part of the labour force working outside their borders (also known as *labour migration* or *economic migration*), with a specific target on receiving countries from Western and Southern Europe; and (*2<sup>nd</sup>*) poverty and arm assaults in Syria, Iraq and other neighbouring countries have forced about 1.2 million people to find refuge in Europe in 2015, and the first months of 2016, while 3,340 persons have risked their lives to get there by sea only in January 2017, and the numbers have been continuously growing throughout 2018 (known as *humanitarian migration*) [3]. *Economic (labour) migration* results from wage differentials and disparities on living standards and quality of life between migrant-sending and receiving countries, being a denotation of global economic inequality. The *humanitarian migrants* refer to "all recipients of protection – whether with refugee status, temporary protection, subsidiary protection *etc.*" [4] (p. 4). The studies depicted on international migration within the European Union (EU) investigated, mostly, important migration effects [5, 6, 7] that are significantly different across countries (negative impacts of immigration tend to dominate on the long-run), we consider that these implications cannot be acknowledged separately from the migration determinants and proper immigrants' integration policies. Different from other studies [8,9] and in line with Borjas [10] criticism, the present research aims to build up *distinctive immigration clusters within ten EU destination countries (EU-10), most preferred by migrants* (including Austria, Belgium, Denmark, Finland, France, Germany, Italy, Sweden, Spain, and the United Kingdom), reliant on two main fundamental credentials of the migration decision, namely economic welfare and employment opportunities at destination, in order to outline *proper mechanisms and distinctive policies for immigrants' labour market integration*. We have considered a two-fold analysis, enhancing both the economic and humanitarian sides of international migration. The research is grounded on national data compiled for the EU-10 countries during the 2000-2015 lapse of time.

The paper is organized into four main parts. The shaping factors of the migration decision and migrants' integration of basic coordinates were introduced first. The current situation of international migration in Europe is further presented to account for the amplitude and dynamics of the migration phenomenon. Further, we have depicted the data used within the empirical analysis, and the methodology applied, namely cluster analysis based on the Ward method and Euclidean distance.

The final parts entail the research results, discussions and concluding remarks.

## State of the Art

### ***Migration: Decision and integration***

The *decisive factors of the emigration decision* are, primarily, the living standards expectations at destination and welfare advances [11]. Within the EU, Hoxhaj [9] investigates the wage expectations of illegal immigrants in Italy and points out that, according to the individual human capital paradigm, a large part of them overestimate the wage level that they could earn in the host country. Similarly, Ruist [12] highlights the importance of the destination country's macroeconomic background in establishing attitudes towards migration.

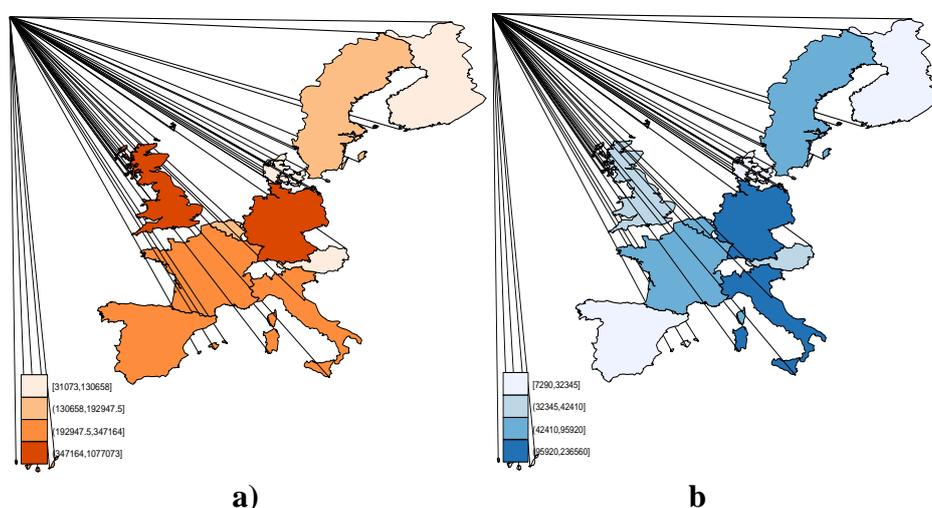
Krause *et al.*, [13] examine the specific ways of immigrants' labour market integration and reveal the importance of the Single European Labour Market (SELM) for improving the economic conditions towards welfare. However, the experts remain sceptical regarding the precise ways of

obtaining these benefits, but consider that the recognition of educational diplomas and professional degrees, optimizing social security systems and overtaking the language barriers are some of the most important factors granting labour mobility. Also, Noja *et al.*, [14] (p. 23) outlined that “for the receiving countries, migration helps to fill in job vacancies and skills gap, support economic growth, and bring energy, innovation, and cultural diversity”. Last, but not least, Fertig and Kahanec [15] examined the dynamics of EU migration flows after the enlargement. They show that international migration largely depends on deepening *policy issues* and to a smaller scale of those economic and demographic.

### **Migration: Current situation**

At present, on a global scale, there are about 68.5 million forcibly displaced persons for various reasons, out of which 25.4 million refugees (5.4 million being Palestinian refugees), 3.1 million asylum seekers, and 40 million internally displaced people. 57% of total worldwide refugees come from 3 origin countries, namely South Sudan, Afghanistan and Syria [3]. The ampleness of this phenomenon became alarming to policymakers and civil society worldwide. The large refugee flows targeting Europe’s main developed countries, as another feature of this extremely dynamic process, also highlights the importance of addressing international migration as a fundamental research pillar.

As shown in Fig. 1a, in 2015, Germany and the UK were among the main migrant destination countries in Europe. Most of the asylum seekers also opted for Germany (Fig. 1b), which received 441,900 applications, along with Sweden, with 35,800 applications (four times higher compared to 2014), and Italy [3]. On the other hand, Romania and Poland are placed among the top five migrant-sending economies in 2015, along with Syria, China and India [16]. These countries face the loss of an important part of their labour force, especially highly skilled labour, with negative effects on long-term economic development.



**Fig. 1.** Number of immigrants (a), and asylum seekers (b) within the main EU receiving countries, 2015  
*Source: Authors’ own process of [3], [16] and [17] data in Stata*

The large “variety of migration corridors, migrant-sending countries and migration motives, shape this refugee crisis into one extremely difficult to approach and coordinate” [18] (p. 9). Furthermore, even though migration is at its highest since 2007, the labour market integration of immigrants is slowly recovering, hence the unemployment rate of foreign-born workers increased by 4.3% in 2016 to reach 12.4% in European countries [16]. Since the migrants are employed in jobs entailing routine tasks, which could be charged by machines as automation progresses, the risk for job loss is also very significant for migrants. Therefore, policymakers aim to design and implement new strategies and policies that will ensure migrants’ labour market integration.

### **Data and Research Methodology**

The indicators selected as proxies for *the basic coordinates of the cluster analysis* are in line with previous researches on similar topics [14], [7] (p. 4), namely: “*i) international migration indicators: economic migration as flows of immigrants and foreign population (*Immigrants*); humanitarian migration as flows of refugees and asylum applicants (*Asylum\_app*); ii) welfare and labor market indicators: real Gross Domestic Product per inhabitant in Euro (*GDP\_capita*), GDP per person employed in USD (*GDP\_pers\_empl*); employment rate for total population (*Empl\_R\_Total*), respectively for the foreign population (*Empl\_R\_Foreign*) (%); annual net earnings of a two-earner married couple with two children (*Net\_earnings*) (Euro); educational level measured by tertiary education (*Tert\_ed*); at-risk-of-poverty rate (*Poverty\_risk*) (%)”.*

Compared to other studies, this paper analyses both economic (immigrants) and humanitarian (asylum applicants) migration indicators, along with several welfare and labour market specific indicators, considering national data for ten EU migrant host countries (EU-10), namely Belgium, Denmark, Finland, France, the UK, Germany, Austria, Sweden, Italy and Spain. The analysed period is 2000-2015. To compile the dataset/panel, we’ve used the following databases: European Commission – Eurostat [17], OECD – International Migration Database [16], World Bank – World Development Indicators [19], United Nations High Commissioner for Refugees (UNHCR) [3].

In order to harmonize our data, since it was acquired in different formats and measurement units (covering for data benchmarking, discarding inaccurate credentials) and thus place all the variables on the same scale, we have first applied *the standardization method*. This advanced method is essential for an adequate design of composite indicators based on means and standard deviation, being appropriate to assess the values for each country related to the values of the other countries considered within the panel [20]. We’ve further used the standardized indicators for *cluster forming and analysis*, based on the Ward method inset on hierarchical clusters, which states that “the distance between two clusters A and B is shown by how much the sum of squares will increase when they are cumulated” [21].

## Results and Discussion

The research conducted within the paper focused, in an initial phase, on EU-10 cluster forming and analysis, based on 2015 data (cross-section) and two scenarios, respectively: (*1<sup>st</sup>*) welfare, living standards (income level) and poverty risk at destination; (*2<sup>nd</sup>*) labour market performance of the EU-10 receiving countries in terms of employment/unemployment according to the educational level, both for national and the foreign population.

In order to set the number of clusters, we have applied the Calinski-Harabasz criterion (cluster stop), and the dendrograms, respectively the method of graphical representation.

Thus, for the *1<sup>st</sup> scenario*, we have correlated the number of immigrants (*Immigrants*) and asylum applicants (*Asylum\_app*) residing in each host country with the GDP per capita (*GDP\_capita*), annual net earnings (*Net\_earnings*) and at-risk-to poverty rate (*Poverty\_risk*), and further applied the cluster analysis through the Ward method (Table 1). The variables used for cluster analysis were standardized, as described in the previous section.

**Table 1.** Cluster analysis results for economic and humanitarian migration, in terms of welfare, income, poverty risk, 2015

Indicator	Cluster 1			Cluster 2			Cluster 3			F	R-sq
	N	Mean	sd	N	mean	sd	N	mean	sd		
Economic migration											
Immigrants	6	-0.557	0.442	2	0.040	0.237	2	2.563	0.978	25.73***	0.880
GDP_capita	6	0.690	0.541	2	-1.047	0.207	2	0.406	0.604	8.53*	0.709
Net_earnings	6	1.177	0.604	2	-0.754	0.126	2	1.752	1.078	8.60*	0.710
Poverty_risk	6	-0.613	0.387	2	1.761	0.015	2	0.232	0.548	28.48***	0.890
Humanitarian migration											
Asylum_app	7	0.648	0.850	2	0.796	2.141	1	6.644	-	12.56*	0.782

GDP_capita	7	0.711	0.497	2	-1.047	0.207	1	-0.020	-	11.27*	0.763
Net_earnings	7	1.368	0.748	2	-0.754	0.136	1	0.990	-	7.27*	0.675
Poverty_risk	7	-0.437	0.585	2	1.761	0.015	1	-0.155	-	12.86*	0.786

Source: Authors' research

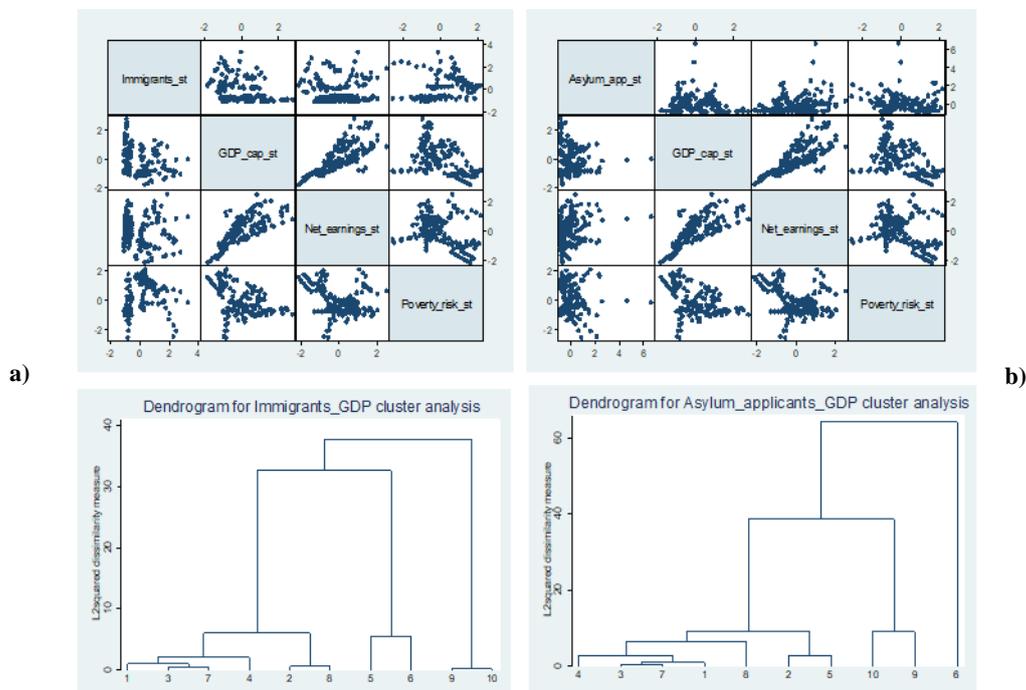
The correlation matrixes and dendrograms (Fig. 2), resulted from the research, allowed us to properly identify three main clusters for EU-10, both in terms of economic and humanitarian migration (Table 2). The first cluster (C1) comprises 6, respectively seven receiving countries, with low attraction for immigrants and refugees, namely the Nordic States (Denmark, Finland, Sweden), but also Belgium, Austria, France, for economic migration, along with the UK, for the humanitarian one (Table 2). However, relative to their population, Sweden and Austria have had in 2015 the largest share of refugees compared to the other analysed countries [3].

At the same time, the third cluster (C3) (Table 2) points out that *in 2015*, among EU-10, the main destination country for immigrants and refugees in terms of welfare, living standards and poverty risk, was Germany (both for economic and humanitarian migration), along with UK (in the case of economic migration).

**Table 2.** International migration (economic and humanitarian) modelled in terms of welfare, income and poverty risk, 2015

Clusters (C)		Economic migration	Humanitarian migration	Clusters (C)	
C1	Belgium, Denmark, Finland, Austria, Sweden, France	Low	Low (to medium)	Belgium, Denmark, Finland, Austria, UK, Sweden, France	C1
C2	Italy, Spain	Medium	Medium	Italy, Spain	C2
C3	Germany, UK	High	High	Germany	C3

Source: Authors' research



**Fig. 2.** Correlation matrixes and dendrograms for the economic (a) and humanitarian migration (b) cluster analysis, in terms of welfare, income, poverty risk, 2015

Source: Authors' own process

Therefore, the results confirm OECD [4] guidelines, revealing that the migration flows have registered a shift in patterns over the years, most emigrants from CEE (especially from Romania and Poland) selecting Germany as the main destination country, along with the UK, in their search for

better living standards, whereas Italy and Spain experience a slight decrease in migrants' preferences compared to previous years.

The European labour market shows important signs of stability, highlighted through the statistical data which points out that unemployment tends to remain at the same level or even to slightly decrease in the following period. Key challenges faced by the EU and its Member States (MS) are mainly related to specific labour market strategies and policies, along with accurate measures aimed to improve its performance, all of these being necessary to support economic growth and employment.

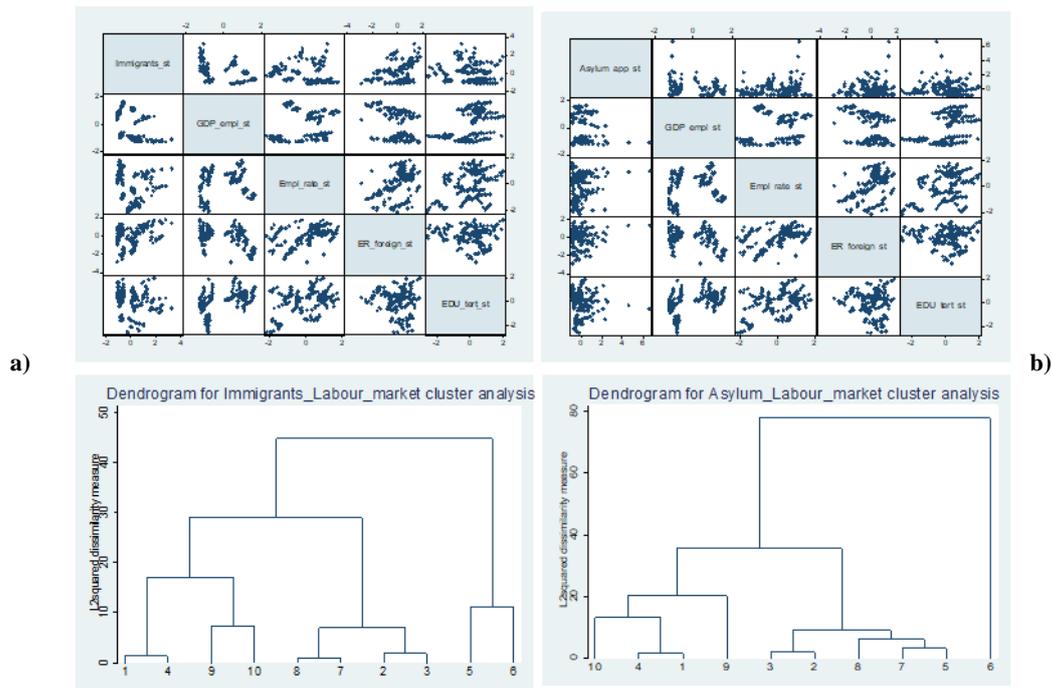
Therefore, in the *2<sup>nd</sup> scenario*, in order to group the ten host countries mainly targeted by migrants, we have correlated the number of immigrants (*Immigrants*) and asylum applicants (*Asylum\_app*) residing in each of these countries with the GDP *per person* employed (*GDP\_pers\_empl*), the total and foreign population employment rates (*Empl\_R\_Total*, *Empl\_R\_Foreign*), and tertiary education levels (*Tert\_ed*) (Table 3).

**Table 3.** Cluster analysis results for economic and humanitarian migration in terms of labour market performance, 2015

Indicator	Cluster 1			Cluster 2			Cluster 3			F	R-sq
	N	mean	sd	N	mean	sd	N	mean	Sd		
Economic migration											
Immigrants	4	-0.611	0.402	4	-0.755	0.204	2	2.563	0.978	33.69***	0.905
GDP_pers_empl	4	0.208	1.413	4	0.141	0.978	2	-0.232	1.183	0.09	0.026
Empl_R_Total	4	-1.143	0.636	4	0.843	0.490	2	1.062	0.160	18.253**	0.839
Empl_R_Foreign	4	-0.970	0.405	4	0.378	0.452	2	1.562	0.273	27.11***	0.885
Tert_ed	4	-0.375	0.391	4	0.756	0.513	2	-0.255	0.079	0.88	0.202
Humanitarian migration											
Asylum_app	4	1.000	0	5	2	0	1	3	-	13.10**	0.789
GDP_pers_empl	4	0.208	1.413	5	0.234	0.872	1	-1.068	-	0.58	0.142
Empl_R_Total	4	-1.143	0.636	5	0.864	0.427	1	1.175	-	18.44**	0.840
Empl_R_Foreign	4	-0.970	0.405	5	0.654	0.730	1	1.368	-	10.29*	0.746
Tert_ed	4	-0.375	0.391	5	0.565	0.616	1	-0.311	-	3.27	0.483

Source: Authors' research

Also in this case, the correlation matrixes and dendrograms associated with the performed cluster analysis have allowed for the identification of three main clusters of EU-10 countries, both for the economic (Fig. 3a) and humanitarian migration (Fig. 3b).



**Fig. 3.** Correlation matrixes and dendrograms for the economic (a) and humanitarian migration (b) cluster analysis, in terms of the host country’s labour market performance, 2015  
*Source: Authors’ own process*

The results obtained after applying the cluster analysis (C1) (Table 4) revealed that Belgium, France, but particularly Italy and Spain, where the unemployment persists at higher levels, were less targeted by the immigrants compared to previous years.

**Table 4.** International migration (economic and humanitarian) modelled in terms of the labour market’s performance, 2015

Clusters (C)		Economic migration	Humanitarian migration	Clusters (C)	
C1	Belgium, France, Italy, Spain	Low	Low	Belgium, France, Italy, Spain	C1
C2	Denmark, Finland, Austria, Sweden	Medium (to high)	Medium (to low)	Denmark, Finland, UK, Austria, Sweden	C2
C3	Germany, UK	High (to medium)	High (to medium)	Germany	C3

*Source: Authors’ research*

The most preferred countries by immigrants and refugees (C3) were again Germany (both for economic and humanitarian migration) and the UK (only in case of economic migration), along with the Nordic States (C2), renowned for the extremely effective labour market strategies that ensure a high educational level of the labour force with positive spill-over in terms of labour market insertion (employment rates) and GDP *per person* employed (productivity).

**Concluding Remarks**

Labour mobility represents a basic pillar of the European economic integration process and essential freedom acknowledged to the MS through the community treaties. However, currently, within the European Union the migration challenges are amplified by the disintegration risk brought by the UK's referendum and associated decisions on Brexit, immigration being one of the main credentials advanced for this outcome.

The present empirical analysis aimed to identify the shaping factors of the international migration (both economic and humanitarian), and thus to group the EU-10 immigrants and asylum applicants according to the basic reasons for their migration decision (cluster analysis).

The results showed that the main host economies targeted by immigrants and refugees *in terms of welfare, living standards and poverty risk*, were Germany and the UK (the migrants are mainly coming from Poland and Romania that are considered labour-exporting countries, especially highly-skilled labour). On the other hand, by reporting *to the host countries' labour market performance/employment opportunities*, the results reveal that Germany owns the same dominant position among the considered economies, but, in this particular case, the Nordic countries (Denmark, Finland and Sweden) renowned for their efficient flexicurity policies, which combine effective measures of labour market flexibilization with income and employment security strategies, become extremely attractive for the foreign population. These results are in line with the ones obtained by Eichhorst and Konle-Seidl [22].

Therefore, considerable attention should be given by the policymakers across Europe to training programs aimed at developing new skills required for employability (digital and soft competencies), by keeping sight of the relation between the quality of education and economic growth. At the same time, workplace rotation, programs to promote entrepreneurship by encouraging unemployed or inactive persons to start up their own businesses and become self-employed, all fit this priority.

Decision-makers should consider and implement several means to enhance employment conditions, mainly through targeted *active labour market policies (ALMPs)*, that have argued to conduct favourable outcomes on the labour market integration of immigrants [7]. The consequences of *ALMPs* upon the unemployment rate of the foreign population are important elements for analysing the strategies on immigrants' integration. The *ALMPs* include numerous categories, each one carrying out a different effect over the labour market performance and seeking the attraction and integration of the unemployed [23], such as: training programs; workplace rotation (replacing an employee with an unemployed person or with one belonging to a vulnerable group for a certain period); programs to enhance entrepreneurship by encouraging unemployed or inactive persons to start up their own businesses [24]. Moreover, Eichhorst and Konle-Seidl [22] show the significance of flexicurity and *ALMPs* for migrants' inclusion in the labour market and increasing the employment rate of the foreign population.

A reassessment of *passive labour market policies (PLMPs)* should also be accounted for by policymakers since our findings have revealed that unemployment benefits perform as a restraint for immigrants to become actively involved in the labour market. *PLMPs* represent another important variable with different and controversial effects in terms of the labour market outcomes [25]. The *PLMPs* refer mainly to: (i) unemployment benefits, granted to secure income during the unemployment period, as well as (ii) early retirement schemes which facilitate retirement (total or partial) of elderly workers with lower opportunities in finding a job.

The migration specific policies should also center on comprehensive educational strategies, since we proved that growth in the educational level for the low-skilled workers (towards upper-secondary) determines a decline in unemployment rates of the foreign-born population [26]. However, among tertiary-educated labour, the migrant selection process is enforced, proving to have controversial effects. Our estimations also highlight that international migration can be influenced through specific measures aiming to induce wage changes, since we've acknowledged that immigrants are mainly attracted by the opportunity of gaining a higher income at destination, sustained by "the emergence of new sets of institutions shaping migration flows (visa-free travel, opening labour markets, student mobility programs, and the introduction of the new transport modes)" [27] (p. 23).

The limitations of our research mainly enclose the reduced extent of available data for longer time series that are essential in grasping the wideness and dynamics of the international migration process.

As future research, we pursue to broaden the immigration analysis in a reciprocal manner, with a specific focus on socio-psychological credentials that are essential for migrants' wellbeing and their role in migrant integration strategies.

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## **Importance of Technological Capabilities for Achievement Competitive Advantage of Croatian Export Firms**

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### **Abstract**

The paper explores the interrelationship of technological capabilities and firm performance of Croatian export firms. The primary aim of the study is to provide answer to research question: Are the most successful export firms in the Republic of Croatia prosperous due to the possession of technological capabilities? Firms with high level of technological capabilities enter the foreign markets more easily and more successfully and increase the share and dispersion of their international sales faster in comparison to their competitors. Proposition regarding relationships between

technological capabilities and the firm's performance has been examined by multiple regression analysis, with the following variables: investment in technology, investment in research and development, the frequency of introducing new products and technological solutions, and return of sales and increase of total revenue. The results of research have shown that technological capabilities have a positive impact on the return of sales and an increase of total income in Croatian export firms.

*Keywords: competitive advantage, export, firm performance, technological capabilities*

## 1. Introduction

Technological capabilities are considered to be the dominant determinants of the level of the internationalization (Spender, 2006); they are the basis for creating a competitive position of the firm on the international market (Knight and Cavusgil, 2004; Oviatt and McDougall, 2004; Buckley and Hashai, 2014). Specific technological capabilities of the firm are the basis for privileged access to markets and the means by which profit is generated (Lin *et al.*, 2013). Technological capabilities are mutually reinforcing opportunities that enable the recruitment and development of different technologies as such technology development, product development, manufacturing process and technological prediction (Zang and Li, 2017). In addition, the firm operating on international markets has a relative advantage in the domestic market in terms of its opportunities for developing and improving technological capabilities (Doz *et al.*, 2001). Firms with developed technological capabilities have significant market expansion potential and relatively quickly expand their activities outside the domestic market (Caves, 2007). The firms that adapt their technologies have the capability for understanding and adopting knowledge on the development of new technologies (technology-based) and the intent and the capability to respond to new technologies (reaction to new technology).

Such firms regularly seek information on the development of new technologies that are sources of potential growth; they react proactively to radical technologies and are capable to reshape business strategies to take advantage of the opportunity or to diminish the danger that new technologies bring (Srinivasan *et al.*, 2002). This understanding and reaction are strategies that allow firms to incorporate new technological advancements into their new products and be ahead of the competition (pre-emptive advantage), which leads to sustainable advantage and consequently to better business results (Olavarrieta and Friedman, 2008). Moreover, technology-based firms operate in technology-based industry and are different from other firms because of strong R&D, creation of new knowledge and high employment rate of scientific and technical staff (Camisón-Haba, Clemente-Almendros and Gonzalez-Cruz, 2019).

Ehie and Olibe (2010) have supported the thesis of positive correlation between the investment in technology and the indicators of business success in the firms in China and America. There is no doubt that technological knowledge has to be used on the market with the aim of creating long-term profit (Teece, 2009), which is also the basis of the proposed hypothesis. In the existing researches, technological capabilities have been measured through (Tsai, 2004; Coombs, Bierly, 2006; Ariffin and Figueiredo, 2004; Ho, Fang and Lin, 2011): the frequency of introduction of new products, the number of the registered patents annually, investment in research and development and the number of projects carried out by the R&D department at an annual level. On the other hand, business success has been examined through: profit or loss in relation to return on sales (ROS), sales growth and total revenues (Hall and Bagchi-Sen, 2002; Coombs and Bierly, 2006; Guan *et al.*, 2006, Artz *et al.*, 2010).

Regarding the chosen focus of the research, special attention is given to technological capabilities of firms and their relations to business success.

The number of authors that investigate the connection between technological capabilities and business successfulness is not small (for example: Garcia-Muina and Navas-Lopez, 2007; Jin and Von Zedtwitz, 2008; Ariffin and Figueiredo, 2004; Calantone, Cavusgil and Zhao, 2002). The above-mentioned authors give support to the hypothesis that investment in technology, and in other resources, influences their business successfulness. Within the framework of this paper, business successfulness is measured with the following indicators: profitability – profit (or loss) in relation to

return on sales (ROS) and growth (decline) of the total revenue and return on sales in relation to the former business period. The paper suggests that there is a connection between the level of technological capabilities and business success and it is examined with the multiple regression analysis and Pearson correlation coefficient where the dependant variable – business success is expressed with different indicators (profitability – profit (or loss) in relation to return on sales and the increase (reduction) of the total revenues and return on sales in relation to the former period. The independent variable, i.e., technological capabilities, is observed through investment in technology, investment in research and development at an annual level and the frequency of introduction of new products and technological solutions.

## 2. Methodology

The research was conducted on the population of Croatian export firms. The sample was firms with an export share of more than 50% of total revenue (there are less than 500 such firms in Croatia).

A highly structured questionnaire was used as a research instrument and 113 fulfilled questionnaires were collected as study input. Business success is measured through two dependant variables: profit (loss) in relation to return on sales and the application of total revenue in relation to last year. The first variable which represents successfulness (profit/loss) in relation to return on sales is derived as the result of the arithmetic mean of five different questions measured with a Likert scale (1. Average investments in facilities and equipment of our firm in the last five years are significantly higher than that of our local competitors, 2. Our firm uses advanced technology for developing new products, 3. Our products are technologically competitive in relation to our regional competition, 4. Our products are competitive in terms of price in relation to our regional competition, 5. We are among first to introduce new technology on the market).

Profit (loss) in relation to return on sales has the highest level of statistically relevant correlation with the variables that measure primacy in the introduction of new technology onto the market (.334: .000), while the lowest level of correlation was established for the use of advanced technologies for the development of new products (.256: .007). Average investments in facilities and equipment in the last five years in relation to the competition is not statistically correlated with the ratio of business result and revenue (.086: .370). The change in total revenue in relation to the former business year significantly correlates only with technological competitiveness of the products in relation to regional competition (.216: .022) (see Table 1.).

		1	2	3	4	5	6	7	8
Average investments in facilities and equipment of our firm in the last five years are significantly higher than that of our local competitors.	P								
	S								
	N								
Our firm uses advanced technology for developing new products.	P	.539**							
	S	.000							
	N	113							
Our products are technologically competitive in relation to our regional competition.	P	.368**	.743**						
	S	.000	.000						
	N	112	112						
Our products are competitive in terms of price in relation to our regional competition.	P	.089	.420**	.631**					
	S	.349	.000	.000					
	N	113	113	112					
We are among first to introduce new technology on the market.	P	.405**	.468**	.634**	.448**				
	S	.000	.000	.000	.000				
	N	113	113	112	113				
INVESTMENT IN TECHNOLOGY	P	.650**	.826**	.876**	.638**	.790**			
	S	.000	.000	.000	.000	.000			

	N	113	113	112	113	113			
PROFIT (LOSS) IN RELATION TO RETURN ON SALES	P	.086	.256**	.275**	.297**	.334**	.333**		
	S	.370	.007	.004	.002	.000	.000		
	N	111	111	110	111	111	111		
GROWTH (DECLINE) OF THE TTOAL REVENUE IN RELATION TO FORMER BUSINESS YEAR	P	-.008	.100	.216*	.109	.110	.145	.108	
	S	.936	.292	.022	.248	.246	.126	.261	
	N	113	113	112	113	113	113	111	
**significance of correlation p<0.01									
*significance of correlation p<0.005									

**Table 1.** Investments in technology and business success correlation matrix  
(Source: authors' calculation)

### 3. Results and Discussion

In order to test the hypothesis, two supporting regression models have been defined. In the initial regression model (Table 2), the dependant variable is profit (loss) in relation to return on sales, while the independent variables are the four measures of technological capabilities: investment in technology, research and development, frequency of introducing new products and technological solutions. Prior to coefficient evaluation, the HAC correction was conducted. The VIF (Variance Inflation Factors) test has confirmed that there exists no problem of multi-collinearity of the dependant variables.

(Explanation of the symbols from the tables – **IT** – investment in technology, **IRD** – investment in research and development, **NP** – frequency of introducing new products, **TS** – technological solutions)

Observe that the variable frequency of introducing new products and technological solutions is not a statistically significant, estimate is the modified model. The coefficients of variable investment in technology and R&D are statistically significant and are  $\beta_1=0.78$  and  $\beta_2=0.24$ , while the model coefficient of determination is  $R^2=0.17$  (Table 3).

Dependent Variable: ROS  
Method: Least Squares  
Sample: 1 113  
Included observations: 109  
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 5.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-9.038838	10.26605	-0.880459	0.3806
IT	0.625196	0.342285	1.826534	0.0706
IRD	0.238070	0.112681	2.112776	0.0370
NP	0.519332	0.446217	1.163856	0.2471
TS	0.174804	0.582184	0.300255	0.7646
R-squared	0.185401	Mean dependent var		19.92855
Adjusted R-squared	0.154070	S.D. dependent var		14.38861
S.E. of regression	13.23385	Akaike info criterion		8.048219
Sum squared resid	18214.02	Schwarz criterion		8.171675
Log likelihood	-433.6279	Hannan-Quinn criter.		8.098285
F-statistic	5.917534	Durbin-Watson stat		1.513934
Prob(F-statistic)	0.000249	Wald F-statistic		3.342581
Prob(Wald F-statistic)	0.012854			

**Table 2.** Initial regression model of technological capabilities and profit (loss) in relation to return on sales  
(Source: authors' calculation)

Dependent Variable: ROS  
Method: Least Squares  
Sample: 1 113  
Included observations: 109  
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 5.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4.197857	8.580367	-0.489240	0.6257
IT	0.780022	0.328295	2.375978	0.0193
IRD	0.243943	0.109671	2.224326	0.0282
R-squared	0.172894	Mean dependent var		19.92855
Adjusted R-squared	0.157288	S.D. dependent var		14.38861
S.E. of regression	13.20865	Akaike info criterion		8.026758
Sum squared resid	18493.66	Schwarz criterion		8.100832
Log likelihood	-434.4583	Hannan-Quinn criter.		8.056798
F-statistic	11.07886	Durbin-Watson stat		1.502646
Prob(F-statistic)	0.000043	Wald F-statistic		5.525159
Prob(Wald F-statistic)	0.005218			

**Table 3.** Final regression model of model of technological capabilities and profit (loss) in relation to return on sales matrix  
(Source: authors' calculation)

The second regression model tests the influence of technological capabilities (investment in research and development, the frequency of introducing new products and technological solutions) on the change in revenues in the current business year in relation to the former year (Table 4). The HAC correction has been conducted and the VIF test shows that there exists no problem of multicollinearity of the independent variables, while the residuals do not have normal distribution. None of the technological capabilities have shown to be statistically significant and therefore the influence of the above-mentioned variables that represent technological capabilities on the change in the profit cannot be confirmed.

Dependent Variable: PP (change in total revenue in compared to the previous year)  
Method: Least Squares  
Sample: 1 113  
Included observations: 111  
HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 5.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.941942	3.198949	0.294454	0.7690
IT	0.102854	0.135795	0.757421	0.4505
IRD	0.077075	0.062328	1.236598	0.2190
NP	0.109428	0.171107	0.639528	0.5239
TS	0.211140	0.341183	0.618848	0.5373
R-squared	0.061833	Mean dependent var		7.759792
Adjusted R-squared	0.026431	S.D. dependent var		6.205356
S.E. of regression	6.122801	Akaike info criterion		6.505915
Sum squared resid	3973.801	Schwarz criterion		6.627966
Log likelihood	-356.0783	Hannan-Quinn criter.		6.555428
F-statistic	1.746582	Durbin-Watson stat		1.880839
Prob(F-statistic)	0.145209	Wald F-statistic		2.241776
Prob(Wald F-statistic)	0.069383			

**Table 4.** Regression model of technological capabilities and growth (decline) of total revenue in relation to former period  
(Source: authors' calculation)

Based on the set regression models, it can be concluded that technological capabilities influence business successfulness measured through profit (loss) in relation to return on sales.

#### 4. Literature

Technological capabilities of modern firms are an important strategic resource that enables them to accomplish competitive advantage within their industry (Hagedoorn and Duysters, 2002), and it also entails long-term success in the competition in different business fields. As information technology develops and markets are becoming global, firms are searching for a way to be competitive through technological and organizational innovations. Firms are no longer focused on the results inside the organization, but are rather paying attention to the market and the needs arising there. Technological know-how is not a quality in itself; it has to have a potential of being marketed and be in the function of reaching above-average results (Camison and Villar-Lopez, 2014). In the paper, the influence of technological capabilities on business successfulness has been tested. It has been measured with return on sales and change in revenue in relation to former business year.

Introduction of new products and technological solutions do not have significant influence on business success, while investments in technology ( $\beta_1=0.78$ ) and investments in research and development ( $\beta_2=0.24$ ) could jointly account for 17% of the variance. On the other hand, it has been confirmed that the measures of technological capabilities are not connected with the change in revenue. Finally, the return on sales variable has proven that there is a connection between the level of technological capabilities and business successfulness.

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## **Strategical Analysis and the Impact of Istanbul Airport on Turkish Airlines**

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### **Abstract**

This study investigates the impact of Istanbul Airport on Turkish Airline (THY) and World Civil Aviation. We also present strengths, weaknesses, opportunities, and threats (SWOT) analysis, strategic suggestions for THY, examination of THY' new flight destinations, and properties of new airport to assess the new airport as well as future outlook of THY. In order for the Istanbul Airport to be successful, four different strategic directions will be examined in the future outlook.

*Keywords: Istanbul Airport, Turkish Airline, SWOT analysis, strategic suggestions, new flight destinations*

### **1. Introduction**

Transportation has been an important and indispensable factor for people for thousands of years.

It is a sector very closely linked with many industries, both in countries' economies and in the global economy. One of its fast growing branches is the civil aviation industry and it has made important developments in parallel with the economic growth that took place in the late 20<sup>th</sup> century [1]. Airline transportation is also developing and the number of people who prefer airline transportation worldwide is increasing every year due to the speed and comfort that it provides [2].

Despite the global crisis experienced in the world in 2003, Turkish Civil Aviation continues its growth that started in 2002. This growth is expected to continue in the coming years and to achieve 2023 targets in civil aviation. The total number of passengers in Turkey's domestic and international flights reached 208 million in 2019 from 33.5 million in 2002, which means the number of passengers has increased 6 times in 18 years. Turkey, which has one of the world's largest airports, especially with the Istanbul Airport infrastructure, has gone through a significant change in 16 years, it has managed to capture that growth in the sector after liberalization. Turkey continues to reach the top levels in transportation with the investments made in every field of transportation in recent years. As people begin to prefer airline transportation, the number of businesses that will serve in the sector is increasing rapidly. For this reason, countries try to reach the best standards in transportation [3].

While Istanbul Airport was the 14<sup>th</sup> airport that hosted the highest number of passengers in the world in December 2019, it was the second airport that achieved the highest growth worldwide, with an increase of 8.4% in the number of passengers. Among the European airports, London Airport increased by 0.5%, Paris Airport by 4.2%, Frankfurt Airport by 1%, and Amsterdam Airport by 0.3%.

Among the 5 largest airports in Europe, Istanbul Airport is the one which increased its passengers the most. Istanbul Airport, where flights have started operations in April 2019, entered the list of airports with the highest number of passengers in the world as of August 15<sup>th</sup> [3].

In terms of the increase in the number of passengers they flew in the last month of 2019, Turkish Airlines (THY) was the 4<sup>th</sup> airline that has the highest increase in number of passengers in the world with a growth of 7.1% (Qatar 17.7%, Singapore 8.7%, China 7.9%). Considering the 32.9% share of the Asia-Pacific Region, where Qatar, Singapore and China Airlines are located, THY has achieved much more success than its competitors. Lufthansa, which is one of the European carriers in the world list, has increased its passengers by 2.8%, Air France-KLM 1.6%, Ryanair 5%, British Airways 4.8%, while THY has increased its passenger in Europe with the increase of 7.1% [4].

There have been published some studies about Turkish aviation as follows: Torlak *et al.*, [5] analysed business competition from a management perspective in relation to the Turkish domestic airline industry by fuzzy TOPSIS multi-methodological approach in the Turkish domestic airline industry. A fuzzy ANP-based SWOT analysis of Turkish aviation industry is provided by Sevkli *et al.*, [6]. Acar and Karabulak [7] assessed the competition in Turkey domestic airline industry between full service network carrier and low cost carrier. Deveci *et al.*, [8] assessed service quality of domestic airlines in Turkey combining hesitant and interval type 2 fuzzy sets. Karagülle [9] evaluated the fleet structures of airline companies in Turkey and their strategic fleet decisions. Dursun *et al.*, [10] examined the transformation of Turkish Airlines from a regional airline to a global network carrier after privatization and domestic deregulation. Çiftçi and Şevkli [11] provided insights about capacity limitations of Istanbul airports and proposed a new HS system for Antalya. Deveci *et al.*, [12] applied interval type-2 fuzzy TOPSIS in order to find new aspects for feasibility analysis of a new route between Turkey-North American region destinations. Logothetis and Miyoshi [13] introduced a new model for hub connectivity and compared Turkish Airlines' hub Istanbul Atatürk Airport and Emirates' Hub Dubai International airport.

The main contributions are as follows: (i) SWOT analysis of the Istanbul Airport, (ii) introducing the construction process and properties of new airport, (iii) examination of Turkish Airlines' new flight destinations in 2019 and 2020 and (iv) strategic suggestions for the future of Turkish Airlines.

## 2. Istanbul Airport

Istanbul Ataturk and Sabiha Gokcen Airports are operating at full capacity and a new airport is now needed to increase the overall passenger capacity. With the new airport to be built in Istanbul, transit flights from Africa, Far East and Asia to Europe can be made through Istanbul.

Istanbul Ground Airport (IGA) received the tender for 22 billion 150 million Euros excluding VAT in October 7, 2013, by a consortium with 5 partners to build Istanbul Airport and to operate it for 25 years. Currently, the consortium is continued with 4 partners; Kalyon, Cengiz, Mapa and Limak.

Istanbul Airport is 35 kilometres away from the city center. It will consist of two terminals and six runways with an annual capacity of 200 million passengers when it is fully completed. Istanbul Airport is planned to be completed in four phases and construction has been officially started on May 1, 2015 by General Directorate of State Airports Authority.

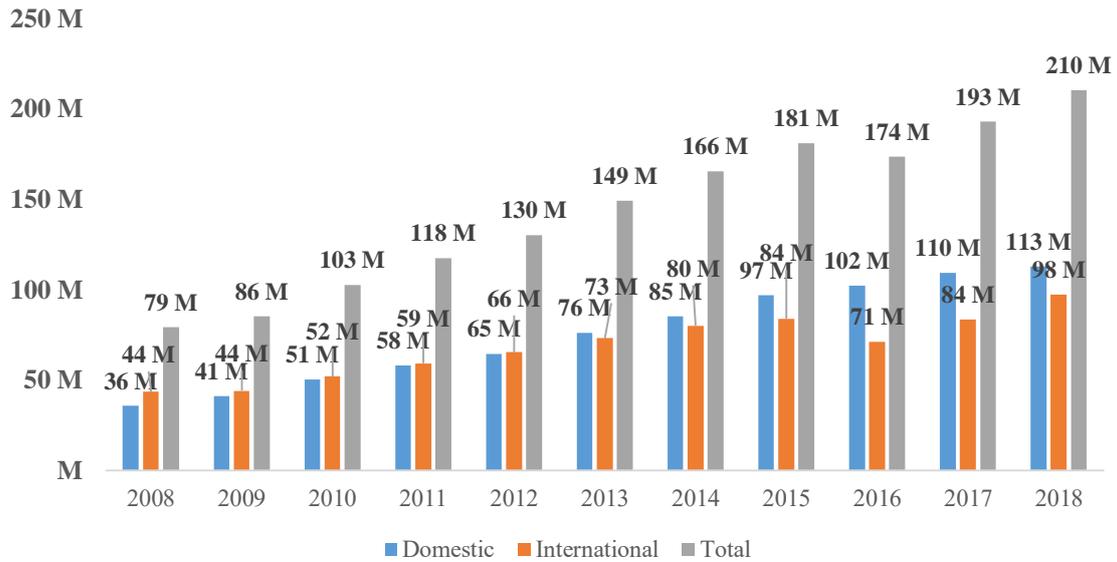
Istanbul Airport, which is the largest infrastructure project in the history of the Republic of Turkey and its first phase opened on October 29, 2018, serves its passengers with full capacity as of April 6, 2019. Covering an area of 76.5 million square meters, the new airport attracts attention as a global transfer center among the Asia, Africa and Europe continents.

On April 6, 2019, two independent parallel runways, taxiways, apron, terminal building, air traffic, communication and meteorology systems and other service buildings were launched in the first phase of the airport. The first passenger terminal building is the largest terminal building in the world under a single roof, with 1.44 million square meters. Welcoming an average of 200 thousand passengers and 1200 aircraft per day, Istanbul Airport operates 2 runways and a terminal building with a capacity of 90 million passengers within the scope of the first phase. In 2019, Istanbul Airport served 329,799 aircraft, 82,325 domestic and 247,474 international flights. The airport hosted 52 million 578 thousand passengers, 12,720,826 domestic and 39,857,182 international flights. According to the data of January 2020, the airport hosted a total of 5,276,260 passengers and 1,263,808 of total passengers were domestic passengers.

Third runway is expected to be open in June 2020, as the taxi times of the aircrafts will be shorter thanks to the new runway, delays will decrease and the capacity will increase. With the opening of the third runway, hourly descent and departure traffic will be increased from 80 to 120. New airline companies are also expected to fly from Istanbul Airport as the runway becomes operational as capacity will increase. Istanbul Airport, which will carry passengers to 350 different destinations, is the world's first digital and smart airport of its size [14, 15].

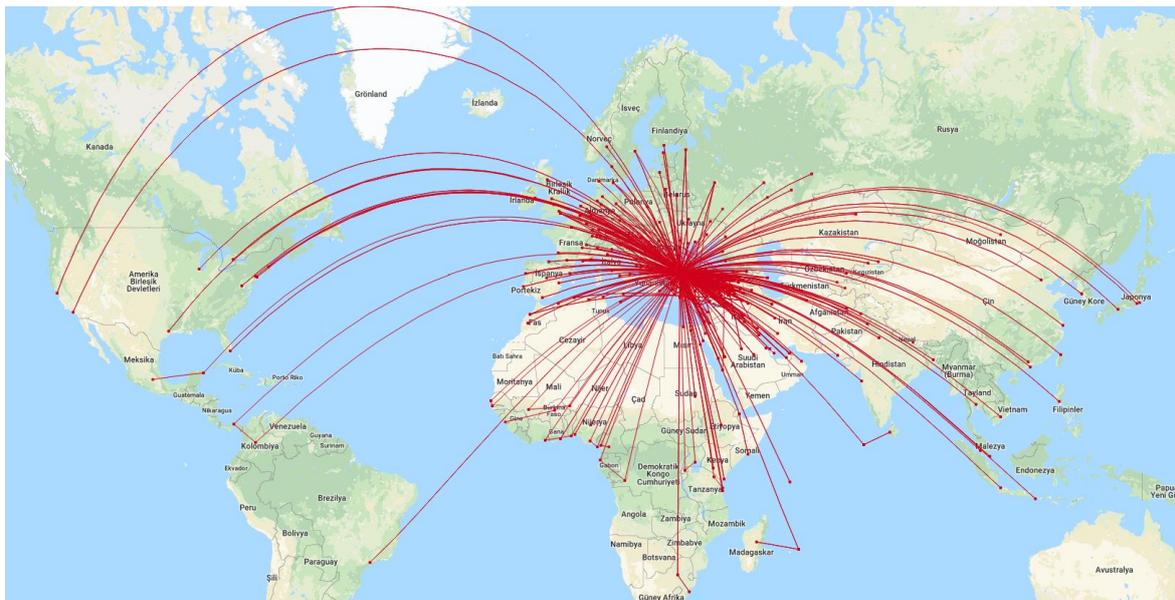
### 3. Turkish Airlines

Turkish Airlines is national carrier of Turkey and it was the only carrier until 1983 [16]. Domestic market has been deregulated since 2003 and from that year, passenger numbers, number of airlines and number of airports in the country are increasing. Turkish Airlines (59%), PGS (28.6%), Onur Air (7.9%), and Atlasjet (4.4%) has capacity share in the domestic market [10]. Yearly domestic and international passenger of Turkey is given in **Fig. 1** [17]. Except 2016 demand crisis, airline industry is grown by years. After 2016 crisis, industry recovers very quickly and continues to grow in 2017.



**Fig. 1.** Yearly domestic and international passenger figures of Turkey from 2008 to 2018

Turkish Airlines conducts its operations based in Istanbul in the Anatolian Geography, which is at the intersection of the European, Asian and African continents. The route map of THY is depicted in **Fig. 2** [18].



**Fig. 2.** Turkish Airlines route map

THY can reach 52 domestic destinations and 25 international destinations within a 2-hour flight time range, 117 international destinations with a 4-hour flight time range, 153 international destinations with a 6-hour flight time range, 176 international destinations with an 8-hour flight, 220 international destinations with an 8+ hour flight. This demonstration is shown in **Fig. 3**.



**Fig. 3.** Turkish Airlines geographical advantage

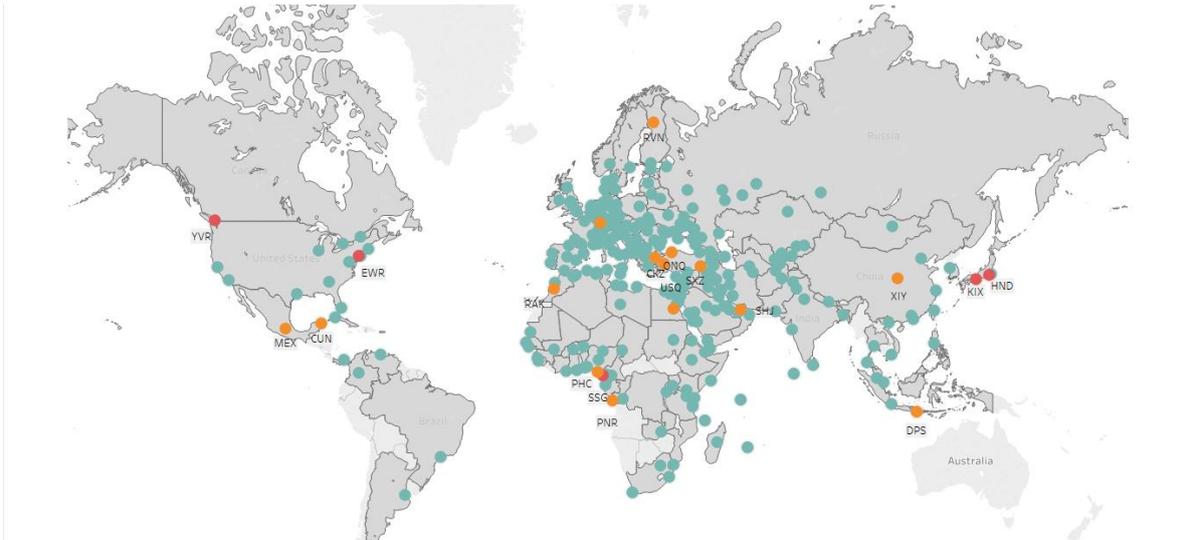
THY can reach all of Europe, North Africa and the Middle East and a significant part of Central Asia, India, Pakistan, and East and West Africa with narrow body aircraft.

Using the advantage of its geographical location, THY conducts scheduled passenger flights to 321 airports in 318 cities in 126 countries in America, Asia, Africa, Europe continents. 52 of these destinations are domestic and 269 are international ports. As a flag carrier, it operates to all domestic airports that are open for civil aviation.

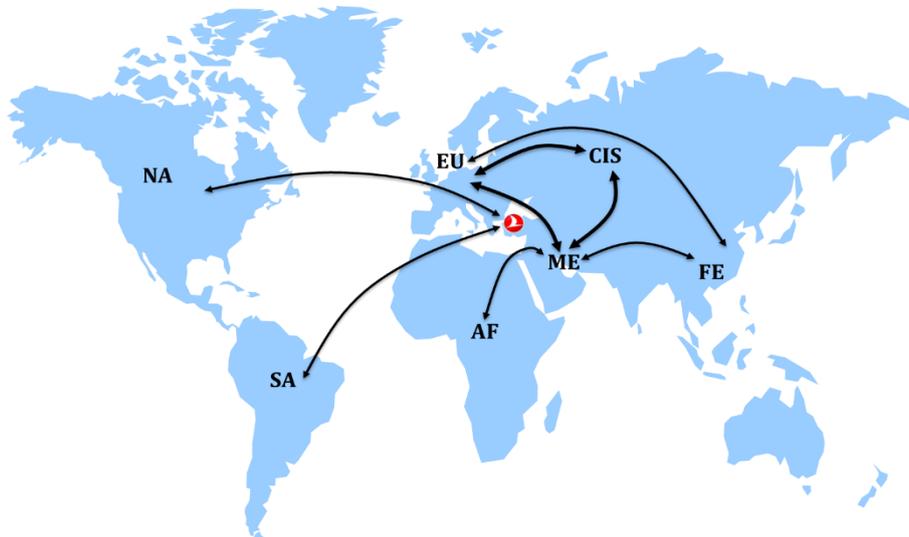
Turkish Airlines have added 15 new destinations to its network in 2019. Four of these destinations are domestic respectively, Uşak, Siirt, Zonguldak and Çanakkale flights are started. International flights from Istanbul to Sharjah, Marrakech, Strasbourg, Port Harcourt, Bali-Denpasar, Pointe Noire, Mexico City, Cancun, Luxor, Rovaniemi and Xian have also started in 2019.

It is planned to add Newark (New Jersey-USA), Vancouver (Canada), Malabo (Equatorial Guinea), Haneda (Tokyo-Japan) destinations to the flight network in 2020. It is also planned to restart flights that have been suspended in 2017 at Osaka.

These destinations are illustrated in **Fig. 4**. Blue dots show the current network, orange dots show the airports that are added to the network in 2019 and red dots show the airports that are planned to be added to the network in 2020. The connecting passenger regions of Turkish Airlines are also shown in **Fig. 5**.



**Fig. 4.** Turkish Airlines current flight network and new destinations

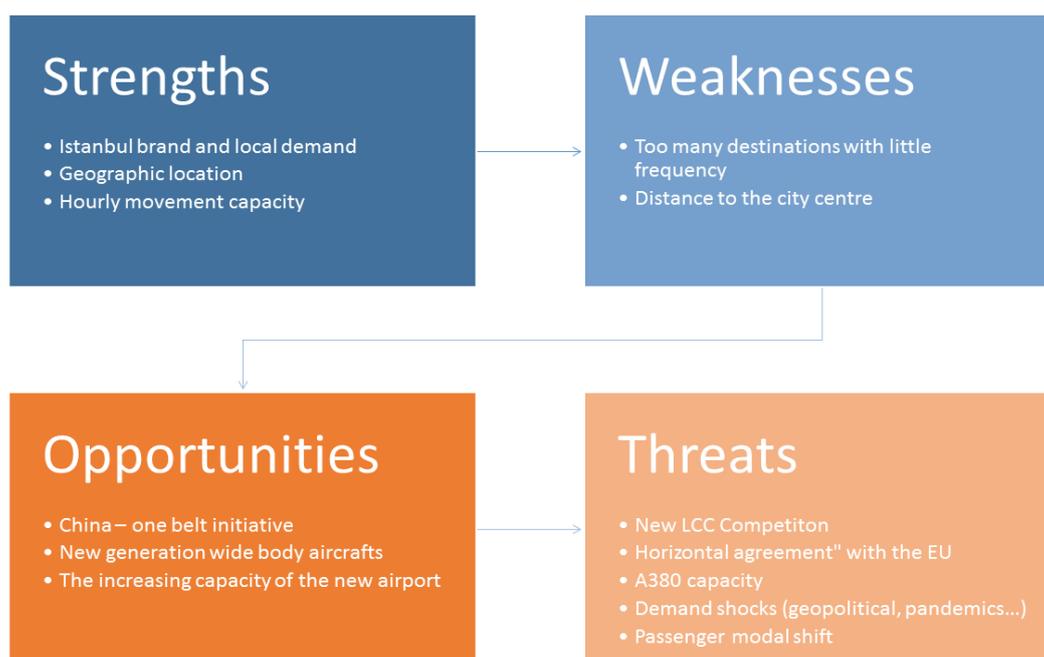


**Fig. 5.** Turkish Airlines' connecting passenger regions

#### 4. SWOT Analysis of Istanbul Airport on Turkish Airlines

Turkish Airlines has a strong position in Istanbul and expansion opportunities in Istanbul Airport.

As a hub airport that is serving worldwide destinations, it offers a platform to compete for continuous leadership. To maximize the performance and provide that airport capacity increase is not leveraged against Turkish Airlines by competitors, especially low-cost carriers (LCCs), will require management of Turkish's fleet, hub structure and network management, as well as ensuring that the opportunities available to Turkish Airlines are fully utilized. **Fig. 6** shows the SWOT analysis Istanbul Airport on Turkish Airlines.



**Fig. 6.** The SWOT analysis of Istanbul Airport

#### 4.1 Strength of THY Strategy on Istanbul Airport

➤ *Large home market and geographic location*

Turkey and Istanbul as a country and city has a very high tourist potential [19]. By using this potential, THY can start flights to many new destinations. The slot capacity required to start these flights is available at the new airport and the required fleet is also provided. In addition, geographically, the intersection of continents stands out as a good transfer point for those traveling by air transport. It is advantageous for both east and west travel as well as between north and south.

Europe-Far East, Europe-Africa, Europe-Middle East, North America-Middle East and North America-Africa markets can be counted as the inter-geographical passenger flow to which this advantage is best used.

➤ *Hourly movement capacity*

In order to utilize the increased hourly slot capacity of Istanbul Airport compared to Ataturk airport, THY should increase the frequencies and adjust the schedule of its existing flights. This will also increase connectivity by adding new flight destinations to its network. With the transition from Ataturk Airport to the Istanbul Airport in 2019, THY has already started flights to 15 new destinations with direct flights. These 15 new destinations that are added to its flight network in 11 countries as given in **Table 1**.

**Table 1.** The new destinations from Istanbul Airport

#	COUNTRY	CITY	AIRPORT CODE	ROUTE	INAUGURAL FLIGHT	FREQUENCY
1	TURKEY	UŞAK	USQ	ISTUSQIST	16.01.2019	3
2	TURKEY	SIİRT	SXZ	ISTSXZIST	06.03.2019	7
3	TURKEY	ÇANAKKALE	CKZ	ISTCKZIST	15.03.2019	3
4	UAE	SHARJAH	SHJ	ISTSHJIST	04.04.2019	7
5	MOROCCO	MARRAKECH	RAK	ISTRAKIST	15.04.2019	5
6	TURKEY	ZONGULDAK	ONQ	ISTONQIST	12.05.2019	3
7	FRANCE	STRAZBURG	SXB	ISTSXBIST	31.05.2019	4
8	NIGERIA	PORT HARCOURT	PHC	ISTPHCIST	24.06.2019	4

9	INDONESIA	BALÍ/DENPASAR	DPS	ISTDPSIST	17.07.2019	7
10	CONGO	POINTE-NOIRE	PNR	ISTLBVPNRIST	30.07.2019	3
11	MEXICO	MEXICO CITY	MEX	ISTMEXCUNIST	22.08.2019	3
12	MEXICO	CANCUN	CUN	ISTMEXCUNIST	22.08.2019	3
13	EGYPT	LUKSOR	LXR	ISTLXRIST	23.09.2019	4
14	FINLAND	ROVANIEMI	RVN	ISTRVNIST	05.12.2019	3
15	CHINA	XIAN	XIY	ISTXIYIST	30.12.2019	3

Turkish Airlines plans to add 5 new destinations to its flight network in 4 different countries in 2020 as given in **Table 2** [20].

**Table 2.** The planned flights from Istanbul Airport to other countries

#	COUNTRY	CITY	AIRPORT CODE	ROUTE	INAUGURAL FLIGHT	FREQUENCY
1	JAPAN	OSAKA	KIX	ISTKIXIST	14.04.2020	5
2	USA	NEWARK	EWR	ISTEWRIST	25.05.2020	7
3	JAPAN	TOKYO	HND	ISTHNDIST	29.03.2020	7
4	CANADA	VANCOUVER	YVR	ISTYVRIST	09.06.2020	3
5	EQUATORIAL GUINEA	MALABO	SSG	ISTPHCSSGIST	07.02.2020	3

#### 4.2 Weakness of THY Strategy on Istanbul Airport

##### ➤ *Too many destinations with too little frequency*

Turkish Airlines existing bank structure limits the competitiveness of the market in the short-haul regions especially in Caucasus, Ukraine and Eastern Europe. In addition, Turkish Airlines current strategy to create market share and preference 3 or 4 frequency per week or daily but at different times on different days. Turkish Airlines could have more market share and preference in case of the planning of schedule with the same departure time every day with small gauge aircraft would be better service to offer daily service.

#### 4.3 Opportunities for THY strategy on Istanbul Airport

##### ➤ *Introduction of new generation wide body aircrafts*

In 2017, Boeing 787-900 Dreamliner and Airbus 350-900 aircraft types have been ordered. Thanks to the fuel efficiency and range of these new generation wide body aircrafts, THY will have the opportunity to add new flight destinations to its network by profitably. Currently, Boeing 787-900 Dreamliner aircrafts has started to join the carrier's fleet in 2019. With the arrival of these aircrafts into the fleet, cities such as Bali, Mexico and Cancun, which have not been operated before, have been added to the THY's network and the connectivity of the Istanbul Airport has been increased.

The use of the hourly flight capacity of the new airport is also increased and it contributed to the growth of THY. It is planned to join the first Airbus 350-900 type aircraft to the Turkish Airlines fleet in March 2020. In addition, with the phase in of new generation aircraft types to the fleet, maintenance costs and fuel consumption rates will decrease. It is also expected that this will cause the removal of old aircraft types from the fleet and the age of the fleet will be rejuvenated.

#### **4.4 Threads for THY strategy on new airport**

➤ *New (LCC) competitors*

It is expected to see in a large and fast-growing market as Turkey is insulated from the level of LCC competition. The limited slot environment in IST-Ataturk was an effective barrier to entry to limit the LCC growth. In the context of new airport hourly slot capacity, we can expect LCCs to grow in IGA, taking advantage of its higher capacity. The impact of this growth can be expected to create various threats that Turkish Airlines must manage, such as, slot and gate competition, congestion in the peak hours etc.

➤ *Horizontal agreement with the EU*

The European Union and Turkey are still unable to complete the horizontal agreement in the legal provisions of the agreement they have initiated in 2010. The horizontal agreement is based on the acceptance of all European Union countries as a single country. The European Union implements similar agreements within itself and wants to apply it to other countries. For example, the Irish-based company Ryanair can travel from many different countries within the European Union to different countries within the Union. In case of Turkey by the same agreement: For example, Germany-based Lufthansa Airlines will be able to add flights from the capital of France, Paris, to Antalya. Turkey-based carrier will also be able to perform without a frequency constraint to any country in the European Union. However, carriers that are based in Turkey, will not practice the same as carriers in Europe for the time being since Turkey is not a member of the European Union. This situation will lead to unfair competition for Turkey based carriers especially for the Turkish Airlines.

➤ *A380 capacity*

Airbus A380 type aircraft could not land at Ataturk airport due to technical reasons and slot capacity problems, but these problems have disappeared at Istanbul airport. Especially, Gulf carriers will want to fly to Istanbul Airport with high capacity A380 aircraft. In this case, it will cause the passengers of the Middle East and Far East departing and arriving from Istanbul to be lost to these connector airlines and eventually Turkish Airline lose market share.

➤ *Demand shocks*

Geopolitical factors, pandemics, wars, conflicts, terrorist events, political developments and the bilateral relations between countries have always been determinant in the airline travel industry.

Recently, in 2015 due to downed Russian fighter jet after a political crisis between Russia and Turkey, passenger demand of Antalya and Istanbul decreased 84% from Russia [21, 22].

Turkey's border with neighbouring civil war in Syria, which began in 2011, Turkish Airlines was forced to cancel flights to Damascus and Aleppo. It was also exposed to terrorist threats from Syria.

Such negative impacts should always be considered as an external threat for flights in the Middle East and Africa.

In addition, after the coronavirus (covid-19) outbreak that emerged in Hubei province of China in the last days of 2019, many airlines (including THY) in the world aviation industry cancelled their flights to China as the first precaution for 2 months. According to IATA, the total demand loss of the aviation industry will be at the level of 5% and the income loss will be 30 billion USD due to the virus outbreak. In addition, such outbreaks do not threaten aviation for the first time. Previously, SARS in 2003, MERS epidemics occurred in 2012 and affected the airline industry enormously.

Finally, it should be noted that such outbreaks are always a threat not only for THY but also for the whole aviation industry [22].

➤ *Passenger modal shift (highway and high speed railway to other important cities)*

The newly opened Izmir Highway, North Marmara Motorway, Osman Gazi bridge in Turkey and rail projects has emerged faster alternative opportunities for travel between two largest cities (Ankara

and Izmir) of Turkey from Istanbul. Considering the distance of the Istanbul airport to the city center and the obligation to be at the airport about 1 hour before the air travel requires, transportation by road and rail is a substitute option to Izmir and Ankara, which is 5 hours away by road. In this case, Izmir and Ankara flights may see some decrease in flight services. In the current situation, there are shuttle services to Ankara and İzmir which means one flight for every hour for each city. However, due to decrease in the demand, the distribution of passengers in the existing flights to Izmir and Ankara will shift towards the transfer passengers coming from abroad. In addition, some of the potential passengers on the Anatolian side of Istanbul will also prefer International Sabiha Gokcen Airport (SAW) due to the distance of Istanbul Airport, unless there is not any service to where they want to go from SAW, they will prefer the Istanbul Airport.

## 5. Future Outlook of Thy on New Airport

Turkish Airlines should focus on four different strategic directions in order to be successful at the new Istanbul Airport. To capture the international transfer market and increase connectivity, the new capacity available at the Istanbul Airport should be used as soon as possible. The way forward is to strengthen strong targets with new frequencies/additional capacity in line with their redesigned schedules and to strengthen the corresponding connecting regions. In order to provide profitability contribution with this new capacity, it should be managed in coordination with revenue management and sales departments. THY should maintain its level of service against competitor airlines and hub airports. It should also consider operational and commercial risks due to the new playground of future competition

### ➤ (1) *Capture international transfer market*

THY should keep on its successful strategy to focus on building a sustainable and industry-leading position for all international markets (in the Turkey-World market) with enough local (Istanbul non-stop) passenger potential to warrant nonstop service. However, Turkish Airlines can improve this strategy by creating more frequency depth in the mature markets (e.g., Europe). It should ensure that its network expansion plans are coherent with other national development plans and Turkish businessmen investments. For example, Africa flights can be prioritized by THY due to the availability of Turkish engineering companies.

### ➤ (2) *Connectivity*

The number of connection opportunities between both existing destinations in the network and possible new destinations can be increased. New origin and destination pairs can be created by establishing better connections between existing destinations and also establishing attractive connections to new destinations. These will result as taking market share passengers from other carriers.

Turkish Airlines should reduce average transfer times by changing departure and arrival times of the flights according to IGA's higher slot capacity than the Atatürk Airport.

### ➤ (3) *Keep service level against the competitors*

The possible differentiation points are as follows: (i) free stopovers in Istanbul, (ii) duty-free, (iii) long haul arrival facilities, (iv) higher standards of on time performance and baggage handling, (v) frequent flyer partnerships and policies promoting the use of IGA, (vi) friendly, multi-lingual ground staff and cabin crew and (vii) shorter/hassle-free connecting times etc.

### ➤ (4) *Minimize the operational and commercial risks*

It is expected a decrease in the income and load factors with growth. Adding new destinations and frequencies to the existing network will force promotional fees to reduce unit passenger income. Taxi times are longer in the Istanbul Airport than the Ataturk Airport because of the structure of the

runways and terminal. These situation poses a risk. Fuel costs will increase due to taxi times until the third runway is opened.

Introduction of the new aircraft types, (e.g., Boeing 787-900 and Airbus 350-900 are new aircraft types for THY) always requires more effort than the current fleet types, such as, trainings, certifications and approvals from relevant authorities. Cabin and cockpit crews need new trainings and type ratings. Ground and flight operation manuals should be updated, maintenance plans are required to be changed.

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## Tourist Offer Management in Globalisation Processes

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### Abstract

As one of the most dynamic economic activities, tourism is a global engine for the development of the economy in a large number of countries around the world. Due to changes in demand and increased competition, one of the basic strategies in tourism is to innovate existing and develop new tourist products. In an effort to adapt to different wishes and needs of new customers in product development, growing emphasis is placed on experience, i.e., emotional component of a journey, and a tourist product can be viewed through the economy of the experience. The starting point of this paper is empirical research on tourist offer management on the model of the town of Opatija. Opatija has the possibility to establish itself in the international tourist market as a competitive year-round tourist destination, and therefore it is necessary to build a quality integral product that will satisfy the wishes and needs of potential demand. In this sense, the role of the current holders of the tourist offer as well as the tourist boards participating in its unification and promotion on the international tourist market is important. By a survey, and for the purpose of scientific value of the paper, the authors further investigated the opinion and views of the citizens of the town of Opatija on the present situation and management of the tourist offer. Based on the results of the research in this paper, corresponding judgements have been made and certain conclusions and subjective opinions projected that could be of relevance to the interested stakeholders in perceiving both encouraging and warning factors.

*Keywords: tourist offer, tourist destination, tourist promotion, globalisation, town of Opatija*

### 1. Introduction

Tourism as a global phenomenon carries economic strength, but its development also brings a large number of different social and environmental influences. Due to changes in demand and growing competition, one of the basic strategies in tourism becomes innovation of existing and development of new tourist products adjusted to the different wishes and needs of new customers, where increasing emphasis is placed on the experience, i.e., emotional component of a journey and a tourist product is considered an experience. How and in what way should a tourist destination be managed is one of the most pressing issues facing tourism policymakers in Croatia today. Tourism management in destinations is currently carried out to a certain extent by the public sector, primarily the system of tourist boards and other public sector. Tourist boards base their 2020 work programmes on the legislation from 2019, i.e., the Act on Tourist Boards and the Promotion of Croatian Tourism (OG 52/2019), the Tourist Tax Act (OG 52/2019) and the Tourist Membership Fee Act (OG 52/2019) and follow the guidelines of the “Strategic Marketing Plan for Croatian Tourism 2014-2020”. The private sector is the offer holder, while tourist boards have so far focused primarily on promotional activities, dissemination of information to tourists in the destinations and organization of festivities and events.

## 2. Tourism Trends Influenced by Globalization

Modern tourists are experienced travellers, well-informed, want more eventful tourist experiences, try to meet their needs optimally considering the time and money invested in their journey. They are characterized by dynamism, curiosity, the desire to get to know new environments, the desire for attractive events. This is why they choose tourist destinations that offer an appropriate quality and choose other destinations if the quality does not meet their expectations. Natural beauties are no longer a sufficient attraction factor, especially for more demanding market segments seeking a more eventful and active leisure. The need for non-standardized services and individualized behaviour of tourists is directly linked to [1]:

- a) the search for self-determination (emancipation) and do-it-yourself principle,
- b) greater travelling experience of the population, which goes hand in hand with a more selective, critical and quality-oriented approach, individual planning of holidays, but also with increasing refinement of demand and rationality of choice,
- c) growing desire to connect with nature, to gain first-hand experience and to spend active holidays (e.g., “holidays for hobbies”),
- d) greater ecological awareness and sensitivity towards the quality of life in general.

Changes caused by the globalisation processes directly influence business operators in the tourism sector and if a segment on the tourism market wants to become competitive, it simply cannot avoid joining forces with world groups that can push it out of the market. It is a challenge for all tourist destinations competing in the global tourist market to build an individual brand, i.e., convey to the client its authentic offer profile, which will separate one tourist destination from another. Agents of tourist activities reach for different forms of vertical and horizontal integration strategy. This results in consolidation in the tour operator business and the hotel industry, which brings strengthening the competitive advantage, strengthening the image, introducing a unique reservation system, and more efficient research of the global tourism market [2]. According to the Booking.com survey, among more than 22,000 passengers on 29 markets (including the Republic of Croatia) and information from more than 180 million verified guest reviews, some of the trends in the world of travel are [3]:

- Increase in the number of trips to less-known destinations in order to reduce the impact of mass tourism and protect the environment,
- Application of innovative technologies through intuitive and reliable recommendations in obtaining personalised proposals of destinations to visit, accommodation facilities and activities based on previous travel and preferences of users,
- Longer journeys for more enjoyment – using slower means of transport to reduce harmful environmental impacts,
- Visiting destinations that offer a range of interesting experiences and attractions in the immediate vicinity of each other in order to save time or make the best use of destinations offering various entertainment sources,
- A new era of travel where pets are the centre of attention,
- Grandparents’ travels with grandchildren,
- Travel related to culinary delicacies – study of the local gastronomic experience
- Adventure trips.

Therefore, globalisation processes have contributed to the change in social relations, progress in the field of leisure time, education, health status, dissemination of information, and communication.

## 3. Concept and Characteristics of Tourist Destinations – Destination Management

In today’s turbulent time and an environment full of uncertainty and increasing challenges, management has a crucial impact on success in tourist destination management as well as in the business of modern organisations. To a certain extent, a new, more sophisticated traveller has

emerged as a result of experience. Education has also played a role, along with improved communication, and led to more sophisticated demands from tourists who are now looking for new experiences combined with useful activities. For a new tourist, travel is not just a stay in a destination, but an experience of staying there, as the journey becomes a medium for personal fulfilment and identity [4]. If it wants to be competitive, destination offer must respond to this demand in the right ways. Differentiation through creative interventions, especially in relation to the ways “how” the product is delivered, is a key factor in maintaining a more stable competitive position of the destination. Tourist destinations should base the development of tourism on the concept of sustainable development which implies the preservation of resources, does not create irreparable damage, encourages environmentally friendly tourism and equal development, and is socially responsible.

Although it is impossible to implement all of this in practice, it is necessary for tourist destination policy-makers to be sufficiently aware so that they can direct the development of tourism and try to get closer to this ideal scenario, all in order to ensure a long-term and successful future of tourism.

Tourist organisation and destination management can be defined as a process of design, management and development of the tourist system, public offer and public interest in a destination [5]. Tourist destination management is a long-term process that should ensure that high quality of life of the population is reached and that cultural identity of the entire tourist destination is preserved.

Such a long-term goal contains several components, which are reflected in optimal economic development of the destination, high level of living standard of the population, preservation of the necessary level of ecological preservation, and preservation of cultural and historical heritage and its placement in the function of economic and general development [6]. Considering that competitiveness is the main goal of tourism destination management, there are numerous competitiveness factors. It is primarily necessary to start from demand, because its structure determines pressure on the holders of the tourist offer who have to differentiate the offer, create added value through a superior service that will stand out from the competition's, thus affecting the satisfaction of service users, recognisability of the tourist offer and the destination and their promotion [7]. Today's tourist destination must meet the needs of global trends in a way that tourists make the most of their free time and that today's tourist destinations have all the facilities that should provide satisfaction to tourists.

#### **4. Tourist Offer Determinants**

Receptive tourist destinations can be considered places where tourist offer and tourist demand meet; these are areas providing the tourist offer which becomes the goal of every tourist trip. Since a large number of different stakeholders operates in the tourist market, from those who are direct, operational stakeholders to, for example, various government and scientific institutions indirectly influencing tourism turnover, they all contribute to the development of this market with their activities [8].

The factors forming a complex tourist offer consist of three groups of basic factors [9].

- a) attractive or alluring factors are fundamental to attracting potential tourists,
- b) communication or transport factors are factors that enable us to familiarise potential tourists with the advantages of a destination (promotion), arrival of tourists (means of transport and development of transport connections) and market communication,
- c) receptive factors are factors that enable stay in a certain destination (hotels, motels, campsites, and other offer holders) and ensure that attractive factors are highlighted.

Recognition, monitoring and understanding of qualitative trends that shape the world tourism industry are a precondition for viewing the characteristics of tourism as a social phenomenon, but also of wider social changes for the simple reason that these processes both reflect and influence the needs and preferences of consumers and should therefore direct tourism policy at all levels of governance.

## 5. Promotion of a Tourist Destination – Example of the Town of Opatija Tourist Board

In addition to the elements: product, promotion, price, and distribution, it is necessary to include additional three elements in the marketing mix of services: processes, physical environment, and people (employees), in order to meet expectations, needs and wishes of end users of services through all seven elements, which is also the goal of marketing. A serious approach to marketing analysis of the offer elements must also take into account promotion as the only possible communication process linking the supply to the demand market. The goal of each promotional activity is to attract attention and interest, create a desire and encourage activity which will ultimately lead to the effect of purchasing a tourist product. Given the diverse range of tourist products, tourist boards in the destination have the key role in the promotion of these products; they use various promotional instruments to make a particular product more exposed and accessible to tourist demand. Priority operational development strategies of the document called Strategic Plan of Tourism Development of Kvarner with strategic and operative marketing plan 2016-2020 [10], point out increasing market recognition of marketing (branding, markets, products, consumer segments). Recent studies of the 'Kvarner' brand strength indicates that awareness of the region is rather weak, with the exception of certain destinations, specifically the island of Krk, Rijeka, and Opatija, that are somewhat more famous than Kvarner itself. Considering the fact that it is crucial to understand your customer in order to successfully create supply and manage demand, i.e., create additional value for the customer – future tourist – by adapting to their needs, Opatija Tourist Board was used as an example in this paper, since it continuously works on branding Opatija as a stronger destination identity and offering more complete tourist products and services. Furthermore, it encourages a higher level of networking between the public and the private sector in destination management as well as marketing activities with a clearly defined goal, namely increasing the number of arrivals and overnight stays outside the main tourist season to which all activities will be subordinated. In accordance with its 2020 Work Programme, Opatija Tourist Board, in accordance with the Act on Tourist Boards and the Promotion of Croatian Tourism (OG 52/2019), as a local destination management of the organisation, has the following tasks:

**1. Development of products** through planning and implementation of the key public sector projects and key projects of improving the competitiveness of the destination; coordination and communication with private and public sector stakeholders in the destination; development activities related to connecting supply elements into packages and products – incubators of innovative destination experiences and products; development of events in the destination and other motives for arrival to the destination for individual and group guests; monitoring and applying, either independently or in co-operation with the local self-government unit and other public or private sector entities, to tenders for the development of public tourist offer and infrastructure through co-financing from national funds, EU funds and other sources of financing; participation in the development of strategic and development tourism plans in the destination area.

**2. Information and research** through the development and distribution of information materials; design, maintenance and regular creation of content on the websites of the destination and social network profiles; establishment, coordination and management of tourist information centres; operational participation in the implementation of activities of the eVisitor system and other tourist information systems.

**3. Distribution** through coordination with the regional tourist board in the implementation of operational marketing activities; preparation of destination marketing materials in accordance with defined standards and sending them to be harmonised and approved by the regional tourist board. In accordance with the adopted Development Strategy for the Town of Opatija until 2020, Opatija Tourist Board places emphasis on the tourist products that can constantly be successfully developed (resting, health, MICE, cultural, rural, sports and recreation, educational, and nautical), all based on principles of excellence with a focus on year-round business.

**Table 1.** Promotional activities of branding the town of Opatija and creating a destination identity

<b>ACTIVITY</b>	<b>AMOUNT (in HRK)</b>
<b>DESIGN OF VALUES</b>	<b>2.836.000,00</b>
1. I Love Croatia project	60.000,00
2. Events	2.766.000,00
3. Development of new destination products (DMC)	10.000,00
<b>COMMUNICATION OF VALUES</b>	<b>1.476.844,00</b>
1. Online communication	400.098,00
2. Offline communication	1.076.746,00
<b>DISTRIBUTION AND SALE OF VALUES</b>	<b>550.000,00</b>
1. Fairs	170.000,00
2. Study travels and public relations	100.000,00
3. Special presentations	280.000,00
<b>INTERNAL MARKETING</b>	<b>141.260,00</b>
1. Education	35.000,00
2. Coordination of entities involved in tourism turnover	106.260,00
<b>MARKETING INFRASTRUCTURE</b>	<b>186.000,00</b>
1. Co-operation with international and national institutions	70.000,00
2. Photo bank and preparation for publishing	116.000,00
<b>SPECIAL PROGRAMMES</b>	
Support for tourism development in underdeveloped areas	150.000,00
<b>OVERALL PROMOTIONAL ACTIVITIES</b>	<b>5.190.104,00</b>

Source: Authors' processing according to data from the 2020 Work Programme of the Opatija Tourist Board [11]

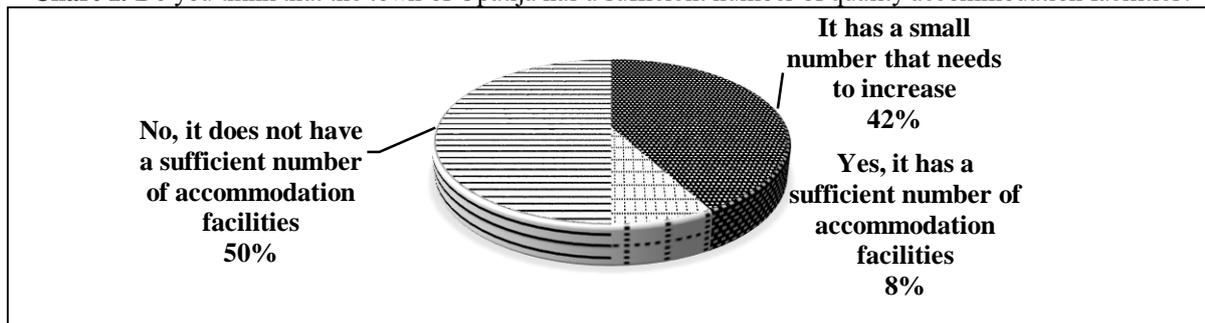
It is evident from the above table that Opatija Tourist Board invests the most funds in events (HRK 2,766,000.00), which are one of the most important elements in creating the value of the destination of Opatija and should as such become a motivation for tourists to come to the destination. The promotional activities of the destination are aimed at strengthening the pre-season and post-season, and these periods attract an increasing number of guest's year after year, justifying the tourist destination's commitment to doing business throughout the year.

## 6. Methodology of Research on Tourist Offer Management of the Town of Opatija

The research in this paper is descriptive, one-time, using the random selection method. The respondents answered eight questions in the questionnaire; the answers will be analysed graphically and descriptively using a follow-up text with the main findings and characteristics of the research.

The first question was about availability of a sufficient number of quality accommodation facilities in the town of Opatija; 50% of respondents replied that Opatija does not have a sufficient number of accommodation facilities because there are hotels in the town of Opatija that are closed during the winter months and are closely linked to the seasonal fluctuation of business operations in the destination. 42% of the respondents think that Opatija has a small quantity of quality accommodation facilities that have to be increased, while only 8% of the respondents thinks that Opatija has a sufficient number of quality accommodation facilities.

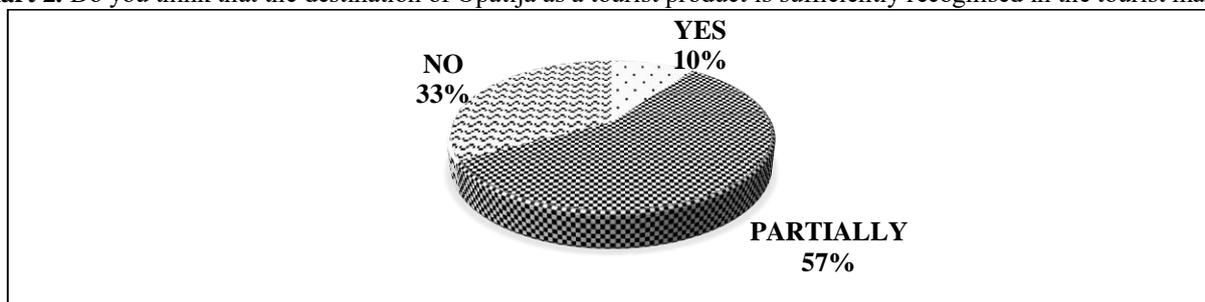
**Chart 1.** Do you think that the town of Opatija has a sufficient number of quality accommodation facilities?



Source: Authors' processing according to the filled-in questionnaires

The next question was about the recognisability of the destination of Opatija as a tourist product in the tourist market.

**Chart 2.** Do you think that the destination of Opatija as a tourist product is sufficiently recognised in the tourist market?

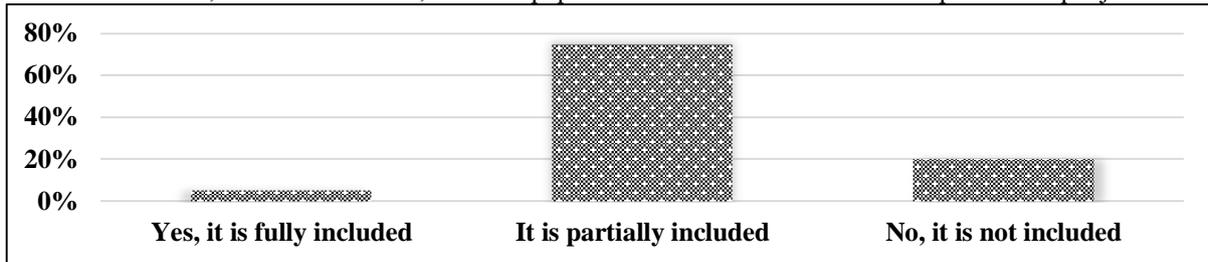


Source: Authors' processing according to the filled-in questionnaires

The next question referred to market recognition of Opatija as a tourist product where 57% of respondents think the current product is only partially recognised in the tourist market. 33% think it is not recognised at all, while only 10% think it is recognised. This answer suggests that the destination of Opatija is probably partially recognised in the tourist market as a monoturism destination. This situation insists on the implementation of the concept of tourism development in general, where new promotional activities obligations are placed before Opatija Tourist Board. To the question referring to professional personnel in tourism, where out of 100 respondents 78% answered that the tourist destination of Opatija does not have enough professionals, while only 22% think that the tourist destination of Opatija has a sufficient number of professionals.

These answers of the respondents provide alarming results of the tourist destination of Opatija related to personnel in tourism. Like all tourist destinations in the Republic of Croatia, there is also a lack of seasonal labour force in the tourist destination of Opatija, and another problem are quotas for the import of contingent workers which should be harmonised with the needs in hospitality and tourism. Namely, the respondents' answers to this question point to a low awareness of the importance of the quality of human resources and an increase in the trend of a lack of quality labour force in tourism, which is becoming the greatest constraint for high-quality tourism development in the tourist destination of Opatija.

**Chart 3.** Is, and to what extent, the local population involved in tourism development in Opatija?

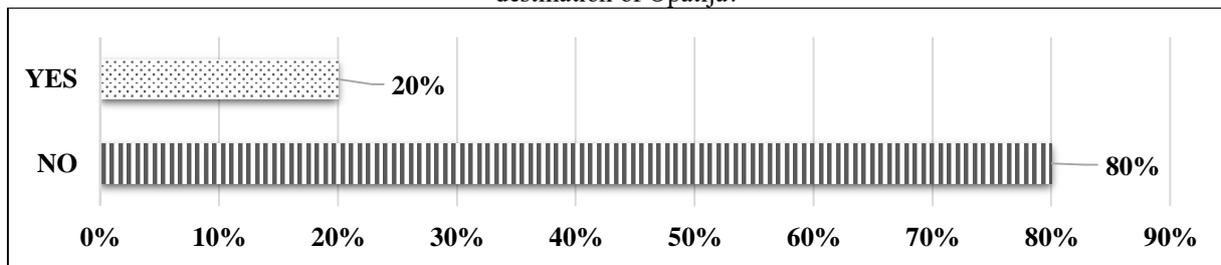


Source: Authors' processing according to the filled-in questionnaires

It can be concluded from the above chart that the answers show dissatisfaction of the local population regarding involvement in tourism development in the town of Opatija. Out of 100 respondents, 75% responded that they were partly involved in tourism development in the town of Opatija. Furthermore, 20% of the respondents replied that they were not included, while only 5% replied affirmatively, i.e., that they were fully involved in tourism development in the town of Opatija.

According to the conducted survey, the next question relates to the involvement of local self-government units in the unification of tourism in the tourist destination of Opatija.

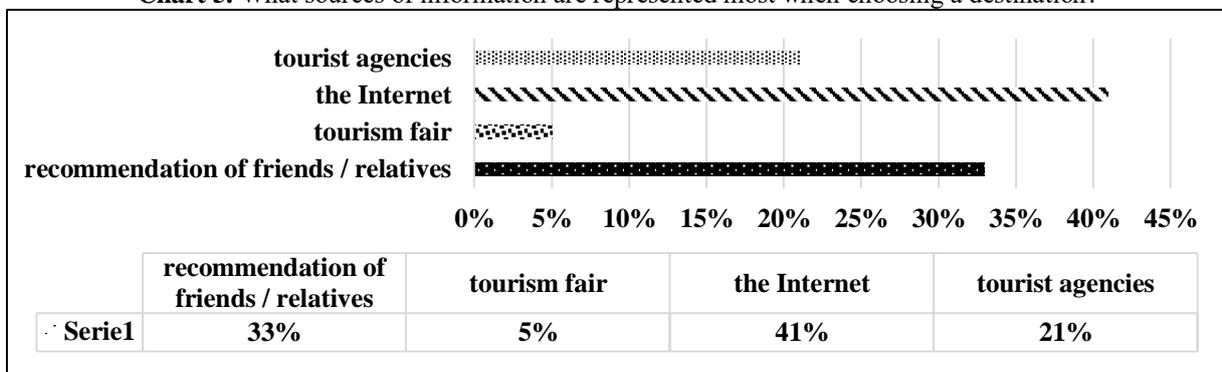
**Chart 4.** Are local self-government units sufficiently engaged in the unification of the tourist offer of the tourist destination of Opatija?



Source: Authors' processing according to the filled-in questionnaires

Considering that local self-government units also influence the formation of tourism and tourist offer, as many as 80% of respondents responded that, in their opinion, local self-government units are not sufficiently engaged in the unification of the tourist offer, while the other 20% think they are sufficiently engaged. Considering the results presented in the above chart, it should be noted that local self-government units evidently do not have a sufficiently dominant development function of this area in their activities, as pointed out by the local population in their answers. The following question was aimed at finding out which sources of information are represented the most in the selection of the destination of Opatija.

**Chart 5.** What sources of information are represented most when choosing a destination?



Source: Authors' processing according to the filled-in questionnaires

The majority of respondents, 41%, replied that the Internet is a source of information when choosing a desired tourist destination, and 21% answered that the most important source of information for choosing a tourist destination are tourist agencies, while 33% answered that recommendations of friends/relatives are important when choosing a tourist destination, while only a small proportion of 5% of respondents thought that promotion of the tourist destination of Opatija was carried out through tourism fairs. These answers show the importance of the Internet, given the global connection of markets, including the tourist market. Furthermore, the majority of the respondents (93%) answered that they think that the coordination of Opatija Tourist Board should be further strengthened, while 7% think that this is unnecessary and that everything is fine with the business and management of Opatija Tourist Board. According to the conducted survey, the next question is in a way based on the previous one, since it shows the work of local self-government units in order to unify the tourist offer of the Opatija Riviera. Asked whether the population of the town of Opatija deems it necessary to unify local self-government units in order to unify the tourist offer of the Opatija Riviera in order to further enrich the tourist offer, 92% of the respondents think this would be necessary, while only 8% of respondents do not see the need for unification, because they think that each area of the Opatija Riviera is separate and should be improved separately.

## 6. Conclusion

From this research and a review of all aspects, it can be concluded that the product of the tourist destination of Opatija has been reduced to monotourism despite all efforts to diversify the tourist offer.

Marked seasonality should be reduced by marketing activities and price policy. It is clear that there is a visible lack of destination management at every step, and it has still remained unclear to many who is responsible for its management. Overlapping functions and lack of responsibility, either in the public administration or in the system of tourist boards, or in major offer holders, are reflected in the lack of harmony and coordination between the important stakeholders of the offer, and there is no function of managing the overall offer of the tourist destination. Thus, the tourist destination of Opatija has to choose a modern and competitive tourist offer, i.e., improvement of all aspects of the offer, but it also has to respect the interests of the local population, who have shown their discontent in the conducted research with their integration into the development direction of tourism in Opatija.

Local culture and lifestyle also often attract tourists and the local population should always be aware of the benefits that tourism brings, but also involved in the decision-making process related to it. In the context of the future management of the tourist destination of Opatija, it is concluded that it is necessary to think in the direction of the possibility of forming a body for destination management of Opatija in accordance with future legislation. From the above-mentioned research results, it is evident that the destination of Opatija must actively, and not declaratively, decide to take advantage of the positive effects of globalisation which are no longer just a trend, but also of the fact of life of the surrounding competitors. Although investments were made in hotel accommodation, raising the quality of accommodation facilities to four or five stars, it is evident that there has been a disproportion of quality accommodation and insufficient destination management, because there is a greater gap between what the hotel offers when it comes to accommodation and service than what tourists can experience and feel (entertainment, culture, sports, and other programmes). In the big global competition, Opatija as a tourist destination has to face the challenge of shifting towards a new development and marketing cycle, with special emphasis on creating added value by adjusting to the needs, expectations, and habits of modern tourists.

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