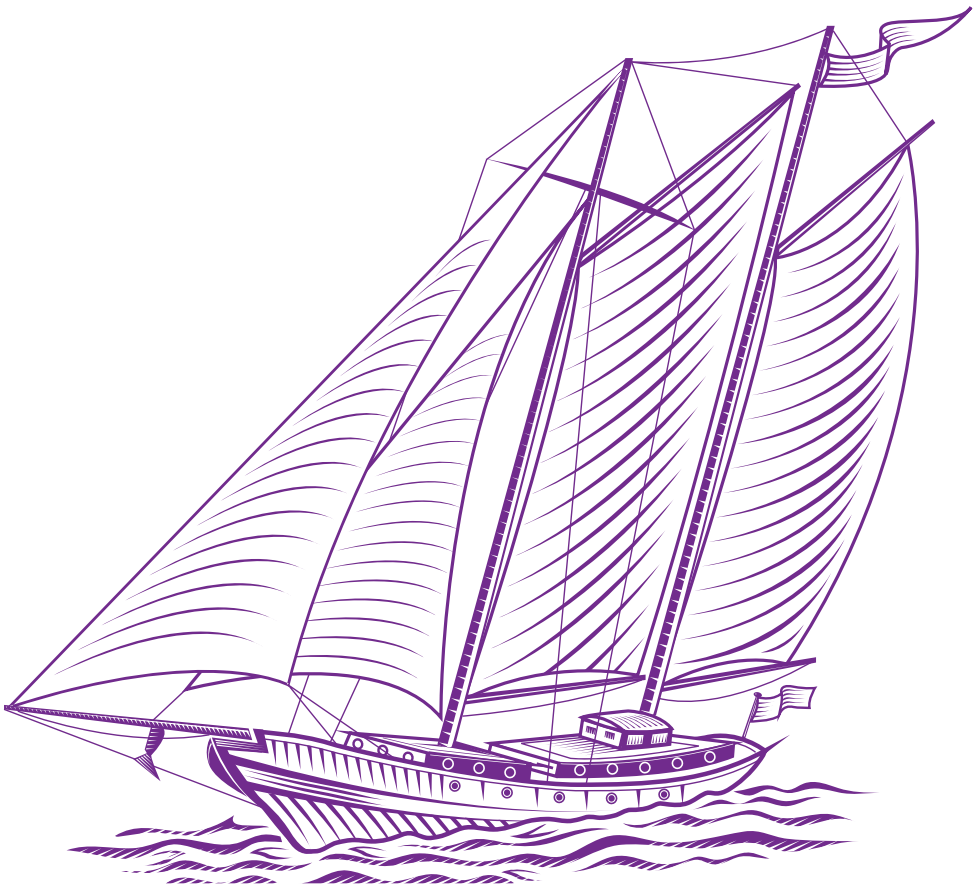
STUDIA UNIVERSITATIS
BABEŞ-BOLYAI



NEGOTIA

4/2019

STUDIA

UNIVERSITATIS BABEŞ-BOLYAI

NEGOTIA

4/2019

The current issue contains a collection of papers on the following topics: Marketing / Advertising; Business Economy / Management, and Human Resources in Economy

YEAR **Volume 64(LXIV) 2019**
MONTH **DECEMBER**
ISSUE **4**

PUBLISHED ONLINE: 2019-12-30
PUBLISHED PRINT: 2019-12-30
ISSUE DOI: 10.24193/subbnegotia.2019.4

S T U D I A
UNIVERSITATIS BABEŞ–BOLYAI
NEGOTIA
4

STUDIA UBB EDITORIAL OFFICE: B.P. Hasdeu no. 51, 400371 Cluj-Napoca, Romania, Phone + 40 264 405352; office@studia.ubbcluj.ro

CONTENT – SOMMAIRE – INHALT – CUPRINS

STUDIA UBB NEGOTIA, LXIV, 4, 2019, pp. 7-26
(RECOMMENDED CITATION)
DOI:10.24193/subbnegotia.2019.4.01

STOCHASTIC DOMINANCE ON FTSE INDEX

IOAN-ALIN NISTOR[1], MARIA-LENUTA CIUPAC-ULICI[2], MIRCEA-CRISTIAN GHERMAN[3], DANIELA-GEORGETA BEJU[4]

ABSTRACT. Stochastic dominance is a method that refers to a set of relations, which may hold between a specific pair of distributions. However, the concept can be applied in many domains, but in particular in financial economic areas, where the considered distributions are usually those of random returns to different financial assets. The aim of this paper is to provide an implementation of a stochastic dominance algorithm that establish which of more risky indices is preferred more by investors who have an aversive risk profile. The study is performed on FTSE indices. The focus is to emphasis the imbalance between FTSE regional indices and FTSE sectorial indices. The analyzed period for regional indices is April 3, 2000 –September 12, 2014. As regards the sector indices, the analyzed period is January 3, 1994 – September 12, 2014.Its relevance consist in that, it offers a different perspective for investors when choosing between different financial assets. This approach together with Meyer algorithm has been proved that it is a useful tool in risk aversion analysis.

Keyword: stochastic dominance, utility function, FTSE index

JEL Classification: C73, D9, D53

Recommended citation: Nistor, I.A., Ciupac-Ulici, M.L., Gherman, M.C., Beju, D.G., *Stochastic Dominance on FTSE Index*, Studia UBB Negotia, vol. 64, issue 4 (December), 2019, pp. 7-26, doi: 10.24193/subbnegotia.2019.4.01

[1] *Babeş-Bolyai University, Cluj-Napoca, Romania, Email: ioan.nistor@tbs.ubbcluj.ro*
[2] *IPAG Business School Paris, France & Commercial Academy Satu Mare, Romania, Email: ulici_maria@yahoo.com*
[3] *Technical University of Cluj-Napoca, Romania, email: mircea-cristian.gherman@univ-orleans.fr*
[4] *Babeş-Bolyai University, Cluj-Napoca, Romania, Email: daniela.beju@econ.ubbcluj.ro*

I. Introduction

Stochastic dominance has been used in various forms since 1932, but this notion has been extensively employed and developed in different areas, such as economics, agriculture, marketing, finance, statistics, operations research, since 1969–1970. Many empirical and theoretical extensions of stochastic dominance in finance and economics were developed only after 1969-1970, when there were independently published four papers by Hanoch and Levy (1969), Hadar and Russel (1969), Whitmore (1970), Rothschild and Stiglitz (1970).

The approach of stochastic dominance is used in areas of choice under inequality and uncertainty measurement for a specific time, but having a reasonable degree of success. The first studies on stochastic dominance were limited only to one decision variable, which means that they could not analyze the effects of first stochastic dominance and second stochastic dominance on financial portfolio with more than three assets. Following the contributions of Rothschild and Stiglitz (1970, 1971) there were proposed many models in order to obtain specific results for optimal behavior of risk averse individual by using both first stochastic dominance and second stochastic dominance changes in returns distributions.

Stochastic dominance is a method of comparisons and it presents two important advantages. First advantage consists that all distinct features that characterize the analyzed distributions are showed in the ranking one obtains. Second advantage presents that the obtained rankings are in accordance with a big spectrum of value judgments captured by different proprieties of utility functions. This property was used to show that changes of distributions that increase equality and efficiency improve welfare.

This method has become a popular one with applications in stock markets, marketing, agriculture, political economy and industrial organization. For example, it allows to a manager of an insurance company

the changed the offered contract without losing his customers. Also, stochastic dominance provides a way of ranking the risky alternatives without any detailed knowledge of the decision-maker preferences.

In this method, random returns are compared by using a point-wise comparison of performance functions that are constructed from their distribution functions. It is an analytical, easily implemented and intuitive tool, also uniquely suited to empirical output that is generated by different simulation models, including detrended fluctuation analysis. Furthermore, stochastic dominance represents a generalization of utility theory, eliminating the need to specify in a explicitly way the firm`s utility function. In some theoretical arguments, there is sometimes desirable to distinguish strong from weak stochastic dominance.

Hence, the rest of the paper is organized as it follows: the second section of this paper presents an overview on the existing work related to stochastic dominance, Section 3 illustrates its main theoretical principles regarding stochastic dominance, Section 4 presents the methodology of Meyer applied to stock markets, Section 5 shows the data used, Section 6 deals with a practical example meant to stress the advantages of this concept applied on FTSE regional indices and FTSE sectorial indices. In the end, a summary of results is presented and some conclusions are pointed out.

II. Literature review

Chen et al. (2010) investigate the possible January effect on stock market price in Singapore, Taiwan and Hong Kong, using daily data for the period 1990 – 2007. Trying to overcome the weaknesses of the most prior studies which used mean-variance criterion or Capital Asset Pricing Model (CAPM) statistics to test the calendar effects, they employ the stochastic dominance approach and the Davidson and Duclos test. Their empirical findings sustain the existence of monthly seasonality effects in these three Asian countries, but suggest that first order stochastic dominance for the January effect has mostly missing.

Başdaş Ü. (2011) examines the day-of-the-week effect for an emerging market, namely Istanbul Stock Exchange using a stochastic dominance approach. The empirical results indicate different outcomes independent of distribution assumption. The results reveal that Monday and Tuesday are not dominated by all other days of the week. Monday is dominated by only Wednesday, Thursday and Friday and Tuesday is dominated by Wednesday and Friday. Moreover, Friday is the day with the highest number of significant results, but it dominates all days, except Wednesday. On the contrary, Monday and Tuesday are the days with the least number of significant test results. Although, the results of stochastic dominance approach validate low Monday and Tuesday returns and high Friday returns, one single day can neither separately dominate other days of the week nor is dominated by other days. By contrast with previous studies that find a significant day-of-the-week effect for Istanbul Stock Exchange, this paper indicates that the day-of-the-week effect is limited in the Istanbul Stock Exchange.

McNamara J. R. (1998) suggests and assesses a precise statistical method for sampling the combinations on returns on applicant risky assets in order that stochastic dominance criteria can be used directly in an efficient linear programming model for portfolio selection. The sampling procedure uses the association of the return on every applicant stock with the return on a market index in a way similar to the Sharpe single-index model, thus removing the great number of combination with probability close to or matching zero. Portfolios estimated by the proposed linear programming stochastic dominance model are compared with those estimated by the single-index quadratic programming model, using 180 months for recent data on a sample of NYSE common stocks. The proposed method is aiming to complement existing mean-variance portfolio models for employ in circumstances in which it is suspected that the normal suppositions about returns on risky assets are not fulfilled, the suppositions about the utility functions of investors are too limiting, or when the intended portfolio must consist of a quite little number of assets.

In a paper supposed to be the first to employ stochastic dominance approach to analyze the Saturday effect, Al-Khazali et. al. (2010) realize an empirical investigation on weekend effect in three Gulf capital markets (Bahrain, Kuwait and, Saudi Arabia) from 1994 to 2006. They take into account the thin trading that is common in emerging equity markets. To explore the presence of the day-of-the week effect in analyzed stock markets, they use the stochastic dominance methodology that is not distribution-dependent and can highlight the utility and wealth inferences of portfolio choices by using information in higher order moments, Their empirical investigation show that the Saturday effect does not appear in the three emerging capital markets and that the stochastic dominance results indicate the Saturday effect in these three Gulf stock markets does not exist when raw data are corrected for thin and sporadic trading.

Using stochastic dominance analysis, Fang Y. (2012) examine whether the market portfolio is efficiently connected to benchmark portfolios created on size, value, momentum and reversal with diverse utility theories. Its finding sustain the prospect theory including the supposition of loss aversion at monthly and yearly horizon, which shows the market utility is S-shaped, and more abrupt for losses than for gains. Moreover, the results do not offer credible support for positive skewness preference. Thus, the author considers that it should investigate into asset pricing model and financial puzzles by prospect theory preferences. It could therefore be complicated for the market to profit from the asset through its characteristics on skewness or other higher order central moment. In order to testing stochastic dominance, the paper also expands a number of bootstrap procedures with positive features in statistical size and power.

Building a zero cost portfolios founded on second and third stochastic dominance, Clark E., Kassimatis K. (2014) reveal that they generate systematic, statistically significant, abnormal returns. These returns are robust relating to a range of conventional risk factors, including the single index CAMP, the Fama-French three-factor model augmented by a momentum, the Carhart four-factor model, and the liquidity five-factor model. Moreover, these abnormal returns are robust regarding to sample

specificities, momentum portfolios, transactions costs, and varying time periods. The results are also robust as regards other risk factors, such as firm size, leverage, company age, return volatility, cash flow volatility, and trading volume. Their empirical results evidently prove that applying dominance relations as a supplementary filter for long and short positions can demonstrate profitable.

Adjusting the stochastic dominance test for risk averters recommended by Davidson and Duclos (2000) to be the stochastic dominance test for risk seekers, Qiao Z., Wong W.-K., Fung J. K. W. (2013) assume both tests to investigate the stochastic dominance relationship between stock indices and their corresponding index futures for 10 markets, including 6 developed countries and 4 developing economies. Their empirical investigation suggests that there should be no stochastic dominance relationship between spot and futures markets in mature financial markets in which arbitrage opportunities are infrequent and transitory. Though, they suppose that stochastic dominance relationship might be present in emerging financial markets that have more obstacles to arbitrage. Reliable with this conjuncture, their paper reveal that there are no stochastic dominance relationships between spot and futures markets in the developed markets, meaning that these markets could be efficient. By contrast, for the emerging markets spot dominates futures for risk averters, whereas futures dominates spot for risk seekers in the second-, and third-order stochastic dominance. Their findings show that there are potential gains in expected utilities for risk averters (seekers) when they change their investment from futures (spot) to spot (futures) in the emerging countries.

Hsieh and Chen (2012) study the existence of the day-of-the-week effect in the Taiwan Interbank Call Loan Market, applying stochastic dominance theory which is distribution-free, taking into account with and without risk-free asset. The results indicate that Monday days are associated with higher returns than all the other trading days of the week in the four diverse maturities, excepting overnight. Tuesday is associated with higher returns in the overnight maturity. Their empirical investigation also illustrate that allocating part of a financial institution's funds in risk-free

assets is useful in distinguishing returns among diverse trading days of the week. These evidences involve those financial institutions can have a better funds management, allocating an optimal quantity of investment in risky assets and risk-free assets.

To examine market portfolio efficiency relating to benchmark portfolio created on market capitalization, book-to-market equity ratio and price momentum, Post T., Levy H. (2005) apply diverse stochastic dominance measures that explain (local) risk seeking. Their findings indicate that stock returns can be explicated by reverse S-shaped utility functions with risk aversion for losses and risk seeking for gains. Moreover, the results are compatible with a reverse S-shaped sample of subjective probability transformation. They consider that low average yield on big caps, growth stocks, and precedent losers could be signs of investors' double desire for downside protection in bear markets and upside potential in bull markets.

For testing market efficiency, Bey R. P., Burgess R. C., Kearns R. B. (1984) proposed, and exemplified on a sample of stock splits, a new and more general methodology – moving stochastic dominance (MSD). Comparing this method with the cumulative average residual (CAR) risk-return analysis, they find that: 1) the constant CAR analysis results are similar with those of prior studies; 2) the moving CAR analysis results are diverging with the prior studies and show that investor are less wealthy after a stock split despite of the following dividend adjustment. Their MSD empirical investigation suggests that investors are almost equally wealthy despite of the following dividend adjustment.

Stochastic dominance approach can be also used to create indices for economic, political and financial risk, as suggest Agliardi E. et al. (2012). Using a stochastic dominance efficiency tests at any order, they build these indices in emerging market countries. They analyze tests for stochastic dominance efficinecy for a given risk index regarding to all possible indices constructed from a set of individual risk factors. The test statistics and the estimators are calculated employing mixed integer programming methods. Developing an economic, political and financial risk ranking of

emerging markets, finally the authors construct an overall risk index. Their most important finding is that the sovereign risk environment in emerging countries can be primordially explained by the financial risk, followed by economic and political risk.

III. Stochastic dominance and applications

Generally speaking, the distribution of the return's assets are in general quite complex and is often hard to choose between them form a certain risk profile. There are many criteria to classify the dominance of an asset over another. From this point of view, this study is relaying on the order of dominance criterion. Theoretically, there is possible to have any order of dominance, but in practice, the characteristics of distribution will lead sometimes to an impossibility of stating the dominance order of one asset to another. Thus, there are defined the first order and the second order stochastic dominance, which could be frequently encountered in real applications. Hence, in the following parts there are presented the basic concepts related to these types of dominance.

An important application of previous concepts is found in are of stock markets and financial investments. In general, an investor acts similar a von Neumann individual from the utility point of view as described Meyer (2005) in his paper. Hence, the investor has to decide between two prospects (financial assets), *X* and *Y*, whose revenues or returns are randomly distributed. The investor will choose or will prefer the asset *X* instead of *Y* if:

$$E\{U(X)\} > E\{U(Y)\} \Leftrightarrow \int_0^A U(w)dF_X(w) > \int_0^A U(w)dF_Y(w) \quad (1)$$

where *X* and *Y* are considered random variables, defined on the interval [0; A]. Based on the utility function approaches, it is not very difficult to demonstrate that from a financial prospective $U'(w) > 0$, which simply means that any individual prefers more than less. Basically, if this property is verified, it is obtained the equivalent form of (1):

$$E\{U(X)\} > E\{U(Y)\} \Leftrightarrow \int_0^A U^{/}(w)[F_Y(w) - F_X(w)]dw > 0 \quad (2)$$

It is known also from McCarl (1999) that from an economical point of view the utility curve is characterized by its risk aversion function defined as:

$$-\frac{U^{//}(w)}{U^{/}(X)} = R(w) \quad (3)$$

Often in the literature it is used the concept of risk aversion coefficient, due to the fact that $R(w) = c$.

As stated by McCarl (1990) in his study concerning the Meyer algorithm, the choice for the preferred asset could be made by an investor for whom the utility function $U(w) = R(w)$ verifies the following constraint:

$$R_1(w) \le R(w) \le R_2(w) \quad (4)$$

Therefore, the integral presented in equation (2) has its maximum value if the following expression states true:

$$\int_0^A U^{/}(w)[F_Y(w) - F_X(w)]dw < 0 \quad (5)$$

Thus, any investor for whom the utility function verifies constraint (15) will choose the prospect Y rather than X. Hence, $E\{U(Y)\} > E\{U(X)\}$ means that *Y* dominates *X.*

In order to write the algorithm used to take the correct decision, it is important to notice that the risk aversion coefficient describes an ordinary differential equation of second-order, as stated in (3). Thus, for this kind of equation the initial condition – i.e.: $U'(0)$ needs to be known. On the other hand, a utility function is only defined by an infinite continuously and derivable transformation (function). In other words, the two functions $U(.)$ and $\widetilde{U}(.) = aU(.) + b$ describe the same investor's preference. Since $\widetilde{U}'(w) = aU'(w)$, it is possible to normalize the derivatives in a such a way that $U'(0) = 1$. Thus, the notation $V(w) = U'(w)$ is used.

Therefore, the described algorithm consists of two steps, as presented below. This algorithm is presented also in a similar way also in the research of McCarl (1990).

1) The first step consists in evaluation of the expression:

$$J^* = \max_{R_1(w)\le R(w)\le R_2(w)} \left\{ \int_0^A U'(w)[F_Y(w) - F_X(w)]dw \middle| U''(w) = -R(w)U'(w), U'(0) = 1 \right\} \quad (6)$$

2) The second step establishes which prospect (asset) is preferred accordingly with the value of J*. Thus if J* < 0 one will choose Y as a preferred asset (prospect).

The integral mentioned above, in the first step, does not appear to be an integral of optimal control. Therefore is needed another form this integral and also a resort to a change of the variable – i. e.: $U'(w) = V(w)$. Consequently, the integral will become:

$$J^* = \max_{R_1(w)\le R(x)\le R_2(w)} \left\{ \int_0^A V(w)[F_Y(w) - F_X(w)]dw \middle| V'(w) = -R(w)V(w), V(0) = 1 \right\} \quad (7)$$

In order to maximize the integral describe in equation (6), there are needed the optimality conditions. The optimality conditions will lead to an achievement of the result, which conduct us to state which prospect is preferable in the detriment of the other one. The algorithm that finds the optimality condition is based on the Hamiltonian operator:

$$\begin{aligned} \mathrm{H} = {} & V(w)[F_Y(w) - F_X(w)] - \psi(w)[R(w)V(w)](w) \\ & + \lambda_1(w)[R(w) - R_1(w)] - \lambda_2(w)[R(w) - R_2(w)] \end{aligned} \quad (8)$$

Accordingly, this transformation applied to the equation (6) is leading to a rewriting of the integrals as it follows:

$$R(w) = \begin{cases} R_1(w) & \text{if} \quad \int_w^A [F_Y(s) - F_X(s)]U'(s)ds > 0 \\ R_2(w) & \text{if} \quad \int_w^A [F_Y(s) - F_X(s)]U'(s)ds \le 0 \end{cases} \quad (9)$$

Hence, if the function $R(w)$ is computed in an optimal way, then the rest of the algorithm consists only in evaluation of J^* and depending on its value, the dominance of one asset over another is determined.

IV. Methodology

We implemented the described algorithm in C# .NET programming language. The usefulness of this environment consists also in the fast development of applications, which involves matrices and others objects used for data storage and manipulation. Since the used time series are grouped in array and matrix, the software's utility is evident. Thus, we implemented the previous described approach in a software algorithm, which is applied for each pairs of studied variables (assets returns). Before fully describing the step-by-step implementation of the algorithm, we mention that each prices series for each analyzed index has been transformed in returns. Further, the return series has been transformed in histograms (distributions) in order to build up the probability repartition functions. Since the length of each data set is sufficient for computing the probability distribution function, we implemented an algorithm for automatic scaling of each data set accordingly to a predefined number of histograms bins. These functions are then applied as inputs to the Meyer algorithm.

The difficulty in the implementation of Meyer's algorithm lies in the fact that the function is defined by a forward integral and not by a backward integral as the usual integrals. For a better comprehension of implementing Meyer's algorithm, starting from empirical data, that we have $F_X(.)$ and $F_Y(.)$, we defined two constant functions in each discrete time interval. The functions are defined over one partition such as: $0 = w_0, \ldots, w_i, \ldots, w_N = A$ and $w_{i+1} - w_i = h$, where h is a small constant and N is the size of analyzed data. This parameter, has an acceptable value from the computational point of view, which can lead to achieve a good accuracy for the approximation of the integral obtained using a step with this (specified) value as it is described by Caliendo and Pande (2005) in their work related to optimal control.

Then, the expression $F_Y(w) - F_X(w)$ has to be derivated. Considering that $F_X - F_Y \geq 0$ in the interval $[w_{N-1}; w_N]$ and knowing that $U'(.) > 0$, then the following integral is positive:

$$\int_{w_{N-1}}^{w_N = A} [F_Y(w) - F_X(w)] U'(w) dw > 0 \tag{10}$$

On this interval, $U'(w)$ verifies the differential equation $U''(w) = -R_1(w)U'(w)$, whose final solution for $w \in [w_{N-1}; w_N]$ is:

$$U'(w) = U'(w_N) e^{\int_w^{I_N} R_1(s) ds} \tag{11}$$

Although $U'(w_N)$ was not known from the beginning of algorithm, it is not very importance and it can be evaluate it arbitrarily. The contribution of the interval $w \in [w_{N-1}; w_N]$ for the optimal value of the target objective function (J^*) is given by :

$$J_1^* = \int_{w_{N-1}}^{w_N = A} [F_Y(w) - F_X(w)] U'(w_N) e^{\int_w^{I_N} R_1(s) ds} dw \tag{12}$$

The next step in the algorithm is w_{N-2}, where it is also possible to calculate $U'(w_N)$ by using the discretized form of differential equation which defines $U'(.)$, as it follows:

$$U'(w_{N-1}) = U'(w_{N-2})(1 - R_j(w_{N-2})h) \Rightarrow$$

$$U'(w_{N-2}) = \frac{U'(w_{N-1})}{1 - R_j(w_{N-2})h} = \frac{U'(w_N) e^{\int_{w_{N-1}}^{I_N} R_1(s) ds}}{1 - R_j(w_{N-2})h} \tag{13}$$

This allows the evaluation of the new integral:

$$J_2^* = [F_Y(w_{N-2}) - F_X(w_{N-2})] = \frac{U'(w_N) e^{\int_{x_{wN-1}}^{I_N} R_1(s) ds}}{1 - R_j(w_{N-2})h} + J_1^* \tag{14}$$

At this point, one can make a choice for $R(w)$ based on the value of J_2^*. Thus, if $J_2^* > 0$ then $R(w_{N-2}) = R_1(w_{N-2})$, else if $J_2^* \leq 0$, then $R(w_{N-2}) = R_2(w_{N-2})$. Moreover, it is possible to calculate $U'(w_{N-3})$ and reiterate the operation until it is reached the step 0, for $U'(0)$. This allows deciding whether *X* or *Y* is dominant, for the two vectors data set, according to the presented approach.

V. Data

In order to test different aspects of stock exchange indices we use daily closing data of FTSE regional indices (FTSE Global 100 – FTSE G100, FTSE All-World Developed – FTSE-D, FTSE All-World Emerging – FTSE-EM, FTSE World Americas –FTSE-A, FTSE All-World Latin America – FTSE-LA, FTSE All-World Middle East & Africa – FTSE ME&A, FTSE World Asia Pacific – FTSE-AP, FTSE World Europe – FTSE-E) and FTSE sectorial indices (basic materials FTSE-BS, consumer goods FTSE-CG, consumer services FTSE-CS, oil & gas FTSE-OG, financials FTSE-F, health care FTSE-HC, industrials FTSE-I, technology FTSE-Te, telecommunications FTSE-Tl, utilities FTSE-U). All closing values of the indices are collected from Datastream database, respectively are denominated in local currency. The analyzed period for regional indices is April 3, 2000 –September 12, 2014. As regards the sector indices, the analyzed period is January 3, 1994 – September 12, 2014.

The main descriptive statistics of daily return series corresponding to FTSE Regional indices are presented in Table 1. We can observe that the mean return series are positive in all examined markets (exception being FTSE Europe), to the extremes being placed FTSE Middle East & Africa and FTSE Europe (which presents negative returns). A first argument that returns do not follow a normal distribution law is given by the Kurtosis coefficient (has higher values of 3), that means that the distribution is leptokurtic, which is much less sharp than the normal distribution, and by the asymmetry coefficient (Skewness) which is different from zero indicating a left asymmetry, i.e. – the left tail is larger.

Table 1. Descriptive statistics of return series of FTSE Regional indices

FTSE REGIONAL	Mean	Median	Max.	Min.	Std. Dev.	Skewness	Kurtosis
FTSE Global 100	0.000029	0.000368	0.1034	-0.0784	0.0109	-0.1837	7.7945
FTSE All-World Developed	0.000071	0.000593	0.0908	-0.0722	0.0106	-0.3154	7.6204
FTSE All-World Emerging	0.000256	0.000850	0.0968	-0.0982	0.0123	-0.5515	8.2133
FTSE Americas	0.000111	0.000510	0.1260	-0.1258	0.0143	-0.4642	9.4582
FTSE Latin America	0.000313	0.000929	0.1555	-0.1541	0.0173	-0.4252	9.9450
FTSE Middle East & Africa	0.000371	0.001014	0.0817	-0.1080	0.0140	-0.4263	4.1679
FTSE Asia Pacific	0.000042	0.000293	0.0980	-0.0991	0.0136	-0.5236	6.5344
FTSE Europe	-0.000016	0.000171	0.0931	-0.0807	0.0125	-0.1207	5.8603

Source: Own processing in Eviews

Note: Number of observations are 3704.

Return series for all FTSE Sectorial indices are positive, to the extremes being placed FTSE Health Care (0.032%) and FTSE Utilities (0.01%) (Table 2). Kurtosis coefficients are higher than the value of three, therefore the distributions are leptokurtic, and these do not follow the normal law. A remark useful in the experimental part, one can state that only distributions of FTSE Technology return indices have a right asymmetry, and for the other indices the distribution remains have a left elongated tail.

Table 2. Descriptive statistics of return series of FTSE Sectorial indices

FTSE Sectorial	Mean	Median	Max.	Min.	Std. Dev.	Skewness	Kurtosis
FTSE Basic Materials	0.00017	0.00042	0.0983	-0.1143	0.0125	-0.4949	10.2098
FTSE Consumer Goods	0.00021	0.00049	0.0935	-0.0579	0.0095	-0.0408	5.3279
FTSE Consumer Services	0.00019	0.00045	0.0792	-0.0724	0.0095	-0.2207	6.2076
FTSE Oil & Gas	0.00029	0.00069	0.1330	-0.1358	0.0129	-0.5404	11.6834

FTSE Financials	0.00012	0.00050	0.1131	-0.0970	0.0125	-0.1298	10.3615
FTSE Health Care	0.00032	0.00049	0.0993	-0.0628	0.0083	-0.2352	8.9733
FTSE Industrials	0.00024	0.00068	0.0716	-0.0794	0.0106	-0.3905	6.2656
FTSE Technology	0.00031	0.00081	0.1113	-0.0793	0.0151	0.0326	4.5116
FTSE Telecommunications	0.00014	0.00036	0.1005	-0.0780	0.0102	-0.1145	6.0868
FTSE Utilities	0.00010	0.00035	0.1248	-0.0791	0.0085	-0.1503	16.2651

Source: Own processing in Eviews

Note: Number of observations are 5400.

VI. Experimental Results

There are many important aspects in regards with the obtained results, which we want to point out in order to emphasis the relevance of the presented method. The stochastic dominance analysis is a concept that strongly relays on distribution of analyzed assets (prospects). The way in which this distribution is constructed has an important influence on the experimental results and some financial decisions. It is possible to build the distribution of the prices (value of indexes, in our case) or the distribution of the returns. If the price for a specific day (e.g.- let's say day t) is defined as P_t then the return is defined as: $R_t = \ln(P_t / P_{t-1})$. Apparently, there could be specific no interest to use one or another way of computing the distribution. Since the returns are presenting a higher interest in the stock market world and also due to the fact that the distribution of returns is close to a normal distribution (which could lead to a better econometrical modeling), we chose to use this representation as a basis for constructing the repartition functions for each of the analyzed index.

An interesting part of this analysis concerns to the risk coefficient values. We used only constant value for the risk aversion function since we considered that the lower and the upper limits bound the risk aversion in a proper way. For a proper analysis, we chose as a range for risk aversion coefficient the interval [-2;+2].

Hence, we present two tables, the first one is focusing on the results of FTSE Regional indices and the second one on the preferences of stock market players in regards with FTSE Sectorial indices. The tables are quite big since we grouped the results for all analyzed indexes. The value from each cell is representing the value for J^* measure described by (17).

Table 3. Generalized stochastic dominance for FTSE Regional indices

	FTSE G100	FTSE-D	FTSE-EM	FTSE-A	FTSE-LA	FTSE-ME&A	FTSE-AP	FTSE-E
FTSE G100	0							
FTSE-D	-7.82E-15	0						
FTSE-E	-2.93E-15	4.72E-15	0					
FTSE-A	-4.89E-15	2.83E-15	-1.95E-15	0				
FTSE-LA	-1.96E-15	5.67E-15	9.45E-16	2.84E-15	0			
FTSE-ME&A	0.002301	0.002297	0.002298	0.002303	0.002303	0		
FTSE-AP	0.002301	0.002297	0.002298	0.002303	0.002303	6.60E-15	0	
FTSE-E	-3.91E-15	3.78E-15	-9.74E-16	9.47E-16	-1.97E-15	-0.00235	-0.00236	0

Source: author's calculations in the own implementation software

The results presented in the previous table are reflecting the stochastic dominance in the preferences of investor with risk aversion for FTSE Regional indices. In this case, the period for each index has the same size. There are several aspects, which can be commented, since the information from the table can cover several topics. We just want to point out that the investors' preferences from the stochastic dominance point of view are in favor of stocks from Middle East & Africa and Asia Pacific. On the other side, it is possible to make a top of dominance, but one has to take into account that if the value of J_N^* for a certain asset is different compared with that obtained in case of other asset, the only which is

taken into account is the sign. Unfortunately, this study is not covering also the topic related to size of J_N^*, which could lead to interesting conclusions to a refined result.

The situation changed as regard the sector indices, in the sense that there are more distributions that become dominant. A similar table with Table 3 is presented bellow in order to emphasis stock indexes' preferences in different areas of the economy.

Table 4. Generalized stochastic dominance for FTSE Sectorial indices

	FTSE-BS	FTSE-CG	FTSE-CS	FTSE-OG	FTSE-F	FTSE-HC	FTSE-I	FTSE-Te	FTSE-Tl	FTSE-U
FTSE-BS	0									
FTSE-CG	-0.0016	0								
FTSE-CS	0.001569	0.003136	0							
FTSE-OG	9.41E-16	0.001568	-0.0016	0						
FTSE-F	0	0.001568	-0.0016	-9.69E-16	0					
FTSE-HC	0.001569	0.003136	0	0.001574	0.001569	0				
FTSE-I	0	0.001568	-0.0016	-9.69E-16	0	-0.00161	0			
FTSE-Te	0.001569	0.003136	0	0.001574	0.001569	0	0.001566	0		
FTSE-Tl	0	0.001568	-0.0016	-9.69E-16	0	-0.00161	0	-0.00159	0	
FTSE-U	0.001569	0.003136	9.41E-16	0.001574	0.001569	9.43E-16	0.001566	9.39E-16	0.00157	0

Source: author's calculations in the own implementation software

It is interesting that there are situations when we cannot state exactly if there exists completely dominance between two distributions of the indices. There are situation when the change in sign indicate also a change in preferences of investors. We want to point out that the

investors' preferences from the stochastic dominance point of view are in favor of stocks from the domains of consumer services, health care, technology and utilities.

The presented results from both tables are based on the same values for risk aversion coefficient. The coefficient values, which were suited to be used for a more precise analysis, were close to zero as indicated also the work of McCarl (1990). We tried to use a uniform approach so that for both type of indices the same values for risk coefficients have been used.

It could be seen that in regions from Middle East, Africa and Asia Pacific the changes in dominance are influenced by the higher volatility, which characterizes these markets. In these cases the structure of volatility that has a strong randomly character and the influence of the crisis had a higher impact on the preferences of investor with high aversion at risks.

VII. Conclusions

There are many applications of stochastic dominance concepts. Some of them are frequently encountered in finance and economics. Although, the stochastic dominance was applied in the early phase of this concept in economics and agricultural economy for various (random) variables, the recent studies covering topics like portfolio optimization and assets dominance for different levels of risk. Therefore this concept is recommended as a good risk measurement approach.

The changes in preferences for certain stock index are reflecting by the change in sign of stochastic dominance measure proposed by Meyer and implemented in our approach.

Stochastic dominance is measure of uncertainty, which apparently involves simple methods, but for a more complex analysis more advanced mathematical and statistical tools are required. The approach used in this paper, the Meyer algorithm is a good tool, which offers the possibility to have an overview of the possible preferences of individuals with aversion to risk. The results are relevant in the sense that this approach could be successfully used in the process of financial decision-making.

The latest researches that are suing stochastic dominance as decision tool are indicate this method as a good approach, which could be used in other areas of financial markets, especially in wealth and portfolio managements. Therefore, the presented approach could be enhanced by implementing some methods, which construct portfolios composed of different assets and the analysis should be performed in order to optimize the constructed portfolios.

Aknowledgement:

This work was supported by the project "Excellence academic routes in doctoral and postdoctoral research - READ" co-funded from the European Social Fund through the Development of Human Resources Operational Programme 2007-2013, contract no. POSDRU/159/1.5/S/137926.

REFERENCES

Agliardi E., Agliardi R., Pinar M., Stengos T., Topaloglou N., 2012. A new country risk index for emerging markets: A stochastic dominance approach, *Journal of Empirical finance,* 19, pp. 741 – 761.

Al-Khazali O., Zoubi T. A., Koumanakos E. P., 2010. The Saturday effect in emerging stock markets: a stochastic dominance approach, *International Journal of Emerging Markets*, Vo. 5 No.2, pp. 227-246.

Başdaş Ü., 2011. The day-of-the-week effect for Istanbul stock exchange: a stochastic dominance approach, *Journal of Applied Finance & Banking*, vol.1, no.4, pp. 233-238.

Chen W. N., Hsueh Y.-H., Chen Y.-T., Chang C., 2010. Investigating Seasonal Anomalies in Asian Stock Market Prices: A Stochastic Dominance Approach, *International Journal of Management*, Vol. 27 No.1, pp. 144-152.

Clark E., Kassimatis K., 2014. Exploiting stochastic dominance to generate abnormal stock returns, *Journal of Financial Markets,* 20, pp. 20–38.

Fang Y., 2012. Aggregate investor preferences and benefits in stock market: A stochastic dominance analysis, *Journal of Empirical Finance,* 19, pp. 528-547.

Hadar, J., Russell, W.R., 1969. Rules for orgering Uncertain prospects, *American Economic Review*, vol. 59, pp. 25-34.

Hanoch, G., Levy, H., 1969. The efficiency analysis of choices involving risk, *Review of Economic Studies*, vol. 36, pp. 335-346.

Hsieh, C.-S., Chen C.-T., 2012. Using stochastic dominance criterion to examine the day-of-the-week effect, *Applied Financial Economics*, 22, pp. 1207–1213.

McCarl, B.-A., 1990. Generalized Stochastic Dominance: An empirical examination, *Southern Journal of Agricultural Economics,* 22(2), pp. 49- 55.

McCarl, B.-A., Besseler, D.-A., 1999. Estimating an upper bound on the Pratt risk aversion coefficient when the utility function is unknown, *Australian Journal of Agricultural Economics*, Vol. 33 (1), pp. 56 – 63.

McNamara, J. R., 1998. Portfolio selection using stochastic dominance criteria, *Decision Sciences,* 29(4), pp. 785-801.

Meyer, D., Meyer, J., 2005. Risk preferences in multi-period consumption models, the equity premium puzzle, and habit formation utility, *The Journal of Monetary Economics,* 8, pp. 1497–1515.

Meyer, J., Orminston, M.B., 1985. Strong Increases in Risk and Their Comparative Statics, *International Economic Review*, vol. 26, pp. 425 – 437.

Post T., Levy H., 2005. Does risk seeking drive stock prices? A stochastic dominance analysis of aggregate investor preferences and beliefs, *The Review of Financial Studies*, 18(3), pp. 925 – 953.

Qiao Z., Wong W.-K., Fung J. K. W., 2013. Stochastic dominance relationship between stock and stock index future markets: International evidence, *Economic Modelling,* 33, pp. 552 – 559.

Rothschild, M., Stiglitz, J., 1970. Increasing risk: A definition, *Journal of Economic Theory*, vol. 2, pp. 225-243.

Rothschild, M., Stiglitz, J., 1971. Increasing risk: Its economic consequences, *Journal of Economic Theory*, vol. 3, pp. 64-84.

Whitmorer, G.A., 1970, Third degree stochastic dominance, *American Economic Review*, vol.60, pp. 457-459.

STUDIA UBB NEGOTIA, LXIV, 4, 2019, pp. 27-49
(RECOMMENDED CITATION)
DOI:10.24193/subbnegotia.2019.4.02

ENGINEERING COMMUNICATIONS AND CULTURAL SYMBOLS FOR CORPORATE REBRANDING – A CASE STUDY ON THE DEVELOPMENT OF THE "METLIFE WAY" IN JAPAN

FUMIAKI TAJIRI[1], ANA DAMASCHIN[2], CRISTIAN VLAD[3], TUDOR TOMOS[4], ANNE STENROS[5]

ABSTRACT. Following a recent acquisition and integration of Alico, one of the strongest non-Japanese insurers operating in the Japanese market, MetLife announced in 2014 that it would change its corporate name from MetLife Alico to MetLife Japan. The rebranding exercise would mean much more than a simple change of names – it led to infer an implicit change of culture, work style and user interactions.

While this change did not seem to mean much to policy holders in Japan, whose premiums were well secured by legal bindings, it meant a lot to employees – especially ex-Alico employees, who were starting to feel somewhat left out by the rebranding initiative.

This paper monitors the cultural transformation process which occurred at MetLife Japan between 2014 and 2015 and focuses on the internal communications process, in order to illustrate the various phases of change and the impact of corporate actions on employee engagement.

[1] *Ph.D. Student, Babes-Bolyai University and CEO, Likeart Resources, tajiri@likeart.jp*
[2] *Ph.D. Student, Babes-Bolyai University and Lecturer at Nagaoka University of Technology, damaschinana1@gmail.com*
[3] *Ph.D. Student, Babes-Bolyai University and Associate Partner, Talent & Engagement, cristian@japancreativeenterprise.jp*
[4] *Ph.D. Student, Babes-Bolyai University and Lecturer at Nagaoka University of Technology, tudortomos@gmail.com*
[5] *Lecturer at Nagaoka University of Technology and Founder & CEO Creative Catalyst, anne.stenros@kolumbus.fi*

Furthermore, the authors observed and monitored the various stages of the "MetLife Way" development in Japan and have collected insights on corporate transformation phenomena at the time of business rebranding.

Key Words: Talent, Communications, Rebranding, Culture, Innovation, Engagement, Japan

JEL Classification: M39; M14; O17

Recommended citation: Tajiri, F., Damaschin, A., Vlad, C., Tomos, T., Stenros, A., *Engineering Communications and Cultural Symbols for Corporate Rebranding – A Case Study on the Development of the "MetLife Way" in Japan*, Studia UBB Negotia, vol. 64, issue 4 (December), 2019, pp. 27-49, doi: 10.24193/subbnegotia.2019.4.02

I. Introduction

Metropolitan Life Insurance Company (MetLife) was established in New York in 1868, ten years after the release of *The Origin of Species* by Charles Darwin, at a time of major scientific discoveries and historical changes around the world - fossils of our Cro-Magnon ancestors were discovered in a cave in southern France, while in Japan the Edo shogunate had just collapsed and the Meiji Restoration was about to begin.

142 years later, in 2010, MetLife bought American Life Insurance Company (ALICO), a global insurance firm with a strong footprint in Japan, from AIG and proceeded to integrating the business in every single market of operations.

MetLife has grown into one of the world's largest life insurance groups that provides life insurance, pension, employee welfare funds, annuities and asset management services for nearly 100 million customers in approximately 51 countries[6].

[6] As of December 2019 (MetLife global corporate data).

MetLife has expanded its business and has become a market leader in the United States of America, Japan, Latin America, Asia, Europe and the Middle East through its subsidiaries and affiliates. In Japan, it started business as the first foreign-owned life insurance company in 1973, since when it has been providing products to individuals and corporate clients through multiple distribution channels, in response to wide-ranging elements of risk, gradually developing a strong market position as a leading insurance company in Japan.

MetLife Alico announced in January 2014 that it would change its corporate name to MetLife Insurance K.K. This transformation meant more than a change of names for many employees. To many ALICO heritage employees, this was an indication that the transition period was over and that business would be conducted under one new globally unified MetLife "umbrella", with a new vision and following new business practices.

Developing a corporate culture that goes together with the changing of the times

"It is not the strongest of the species that survives. It is the one that is most adaptable to change." This concept was put forth as the initial theory of evolution in *The Origin of Species* released in 1859 by Charles Darwin. While there have been several other theories, it is commonly believed the human race has *evolved* from Homo Neanderthalensis to Cro-Magnon, that is linked genetically to modern man. However, one could fall under the illusion that our ancestors *changed* little-by-little from Homo Neanderthalensis to Cro-Magnon. Looking back at a chronological table, we might be tempted to believe that at one point in time Homo Neanderthalensis was suddenly replaced by Cro-Magnon.

In reality, during one period, two species of humans co-existed on Earth for a long period of time. They may have mated during this period. However, what can now be said as a fact is that one human species became extinct and that the Cro-Magnon, those who were genetically linked to our ancestors, managed to adapt to the changes in the environment and survive on Earth.

These developments contained two valuable lessons for the organizational engineers of the MetLife Way. One is that as the values and lifestyles of people become increasingly diverse, the firm must be capable of constantly adapting to these changes in the environment and develop skills, capabilities and functions to support such needs. In other words, employees, associates and business partners need to seek being smarter, more agile than ever in the past and never be complacent with the status-quo. The second lesson was that, similarly to the evolution of mankind and the gradual growth of the rings of trees into bigger trees over the years, major changes do not all occur or be accepted suddenly. A complete change in the world from one day to another is not sustainable transformation, but rather a revolution. The MetLife Way would the fundamental mindset what would support constant change, not a revolution, and transformative business growth.

The introduction of the MetLife Way in Japan would represent an important turning point in global MetLife's long history as well. This would be an experiment for the global business in bringing about transformative change in a highly homogenous organization and employee population. What people resist the most when faced with changes and suffer during the process is not the actual events or the results brought about that specific change. For many people is usually the change itself. Ultimately, what makes people feel reassured, comfortable and confident at times of change is psychological safety – a state of mind emerging from experiencing ordinary events, with no major apparent changes. This is dictated to our ever-vigilant brains at a subconscious level by visual stimuli.

II. Research Objective, Method, Objects and Timeframe

Objective

The main objective of this research is to illustrate the how organizational culture transformation can be effectively deployed through orchestrated communications, applied cognitive science and agile talent operations practice.

Research Objects

MetLife Insurance K.K. (employees and business associates).

Research Methodology

We conducted research based on an actual business case study. Additionally, the authors of this research engaged in first-hand participant observation[7] of this change management process by working internally with the transformation team, living on the premises and visiting other related parties on a regular basis. We could, therefore, observe the stages of corporate confusion, the various stages of decision making and the procedures of organizational and cultural integration, with the eyes of in-house full-time team members, from the start of the project until the end of the integration process.

Timeframe

January 2014 – January 2015

III. Shifting from Paper Communications to Digital and Video Messaging

In order to provide a new and relevant experience to guests and employees, Jean-Raphael began by re-defining the existing Customer Value Proposition (CVP) and the Employee Value Proposition (EVP).

[7] Yin, Robert (2003), Case Study Research: Design and Methods, SAGE Publications, Inc; Third ed.

IV. Discussions and Actions

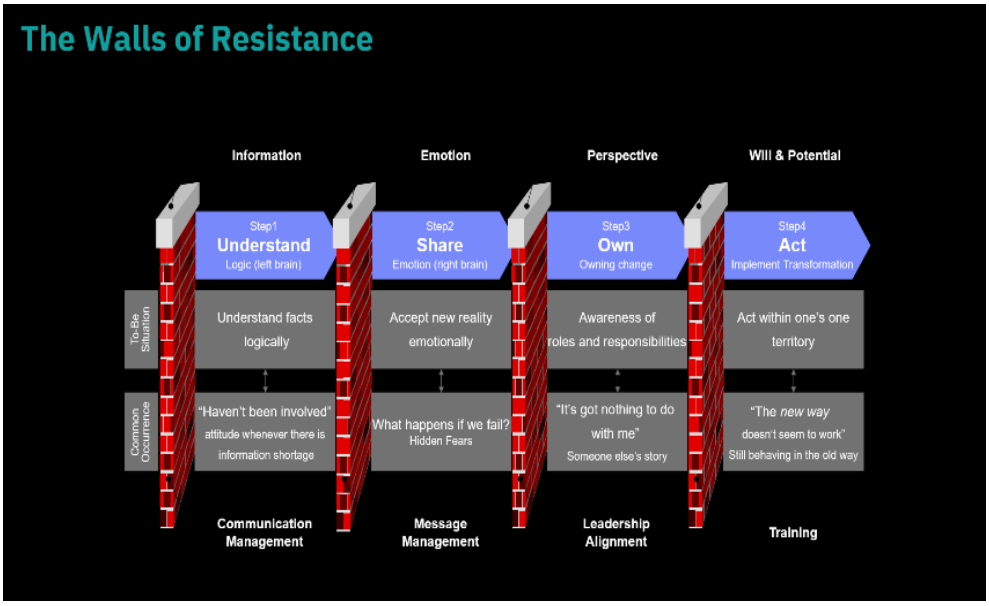
1. MetLife communicators embarked on a series of culture transformation efforts, utilizing cognitive practice, social science and emotional engineering initiatives

Michael Chaskalson pointed out in "Mind Time" that "our minds just run on automatic and we're barely aware that they're doing that. This keeps up confined in the narrow space of our habits. Mentally, emotionally and in our behaviors, we keep doing what we've always done – and we keep getting what we've always got. Sometimes we manage to break out into new ways of doing things. But often, with a sad predictability, these new resolutions and good intentions don't last and we flip back to automatic again."[8]

In order to ensure the success of the rebranding process, the board of directors at MetLife in Japan decided to proceed with a change management approach, focusing on the development and implementation on all necessary resilience initiatives for each step in the transformation journey. Along with the change management approach, the board decided to invest in the development and activation of a series of new communication tools, events and platforms, ranging for video messaging to digital communications and employee engagement initiatives.

In order to establish psychological safety throughout the whole rebranding process, the Communications department proposed implementing a change management process based on emotional engineering practices, envisioning psychological walls of resistance to transformation, and utilizing Japan specific cultural symbols throughout the internal communications strategy.

[8] Chaskalson, Michael (2018), Mind Time, Thorsons, London, pg 2.



Copyright IBM

Considering that the Japanese people were inspired to give in to the American temporary occupation at the end of the second world war by having seen Emperor Hirohito posing safely next to General Douglas McArthur, internal communicators at MetLife agreed the visual communications would play an important role in the process of cultural transformation. As a result, the transformation team decided to introduce a new video communications program featuring prominent employees talking about what rebranding meant to them, while paying special attention to core elements and cultural symbols relevant to the Japanese employee population: "harmony", "gradual transition", "transience", "subtleness" and "elegant simplicity".

Emperor Hirohito is received by General Douglas MacArthur, U.S. commander of the Japanese occupation, at the U.S. embassy in Tokyo. The Emperor is attired in morning clothes for this precedent-shattering visit. September 1945. (Photo by © CORBIS/Corbis via Getty Images)

Daniel Coyle mentioned in "The Culture Code" that when seeking to develop and convey psychological safety, "a mere hint of belonging is not enough; one or two signals are not enough. We are built to require lots of signaling, over and over. This is why a sense of belonging is easy to destroy and hard to build."[9]

Representative Statutory Executive Officer, Chairman, President, and Chief Executive Officer (CEO) Sachin N. Shah of MetLife Insurance K.K. in Japan set forth the strategic policy of Customer Centricity in order to become customers' most preferred life insurance company. According to Sachin N. Shah, one of the most important things is for "employees to

[9] Coyle, Daniel (2018), "The Culture Code", Random House, New York, pg. 12

be closer to customers and be innovative in response to the needs, and to foster an awareness of Customer Centricity," and that in order to achieve reforms in awareness it is "important to develop a spirit of teamwork so that reform can be achieved through the cooperation of many employees instead of only individual employees."[10]

In the background of this directive, there is the idea that it is necessary to take on risks with no fear in order to advance and innovate. Put otherwise, in the terms of responding to changes as in the previous quote from The Origin of Species, rather than having a passive attitude of responding after confirming the changes in the environment, it is inferred that employees must be prepared to constantly stay ahead by changing from within, as they attempt to assess the times they live in and trends in the distant future.

CEO Shah accurately pointed out that when implementing corporate reform in Japan, at times, the perfectionism that is deeply rooted in Japanese corporate culture can be an interference. At times of change, "perfectionism causes conflicts in terms of time and costs in business, and desperate attempts to defend successful experiences from the past can weaken the ability to make appropriate judgments and decisions"[11]. In other words, "there are concerns that this culture could run contrary to reform and create a conservative atmosphere. Even if it may be effective to maintain and continue a given state, it may result in a lack of flexibility to changes in the environment and society, and hold back the growth of employees and the company". While it is obvious that perfectionism has also some positive effects which are meant to lead to corporate profit, when considering balance and efficiency, Sachin was confident that corporate reform is not something that should be left up to individuals, but rather something that should be driven by the orchestrated teamwork of all employees, and that this was the most inclusive method for sharing vision and effectively engaging everyone on the payroll.

[10] Interview with MetLife CEO Sachin N. Shah, 5 January 2014
[11] 7 Interview with MetLife CEO Sachin N. Shah, 5 January 2014

This is a similar situation to when Japan was freed from its isolation following the Meiji Restoration and it courageously took on the challenge of responding to the new environment by boldly looking out into the world, not being afraid of drastic change. Similarly to the manner in which major changes in the traditional ways of thinking and behaving in the Japanese society were carried out based on the decisions made by the government, in an attempt to move away from the old shogunate system and become a modern nation, establishing the foundations for the development and social innovation that was about to come in modern Japan, the MetLife board of executives decided to take a phased approach to cultural transformation, starting with the design of change management initiatives and continuing with culturally intelligent initiatives for employee engagement engineering and for developing an organizational culture which is focused on inclusion, innovation and user centricity.

The User Centricity approach was utilized in order to review the existing Customer Value Proposition (CVP) and the Employee Value Proposition (EVP), leading to the development of two emerging concepts: "Customer Centricity" and "Employee Centricity".

In an effort to maintain an employee centric approach throughout the whole corporate rebranding and transformation process, the board of executives agreed to study the past and observe the main behavioral characteristics of the Japanese people at times of change. From this perspective, the Meiji Restauration proved to be one of the most representative periods of significant cultural transformation in the Japanese history. It is particularly interesting to observe that the source of change in awareness through the Meiji Restoration was not the citizens themselves, but rather it was the officials of the new government, and that these changes were achieved independently through the renewed awareness and bold action of the leaders in charge of the country. If we compare Japan in the Meiji Restauration period with MetLife Japan at the time of rebranding, the role of the government officials is similar to the one performed by management and middle management at MetLife. Transformation is closely related to the ability to estimate, assess and

understand risk and implement measures and actions needed to surpass difficulties, as well as to the ability to believe in oneself and constantly reassure the population exposed to change that, although the road to modernization might be bumpy at times, everyone is on the right path of growth and social emancipation.

Under the direction of CEO Shah who championed Customer Centricity, MetLife made various attempts to create culturally transformative waves emerging from different directions in order to create a new corporate culture and initiate innovation throughout the organization. Some of the immediate effects of this strategy of Customer Centricity included the improvement of the "surrender and lapse" rate that had traditionally been high in the insurance industry, to record-low levels during the first half of FY 2014, along with the achievement of a 20% increase in the number of in-force policies compared to FY 2010. These new indicators of successes contributed to the increase of engagement throughout the organization.

According to an internal survey performed in April 2014, employees indicated that these early initiatives of reform represent how the spirit of Customer Centricity gradually penetrated the organization and would finally be instilled throughout the culture as an element of shared awareness. Another possible interpretation of this phenomenon is that these early results substantiated the belief that fostering an inclusive corporate culture, in which a hands-on approach and small improvements are continually implemented, leads to the provision of maximum value to both customers and employees.

However, as various environmental factors, such as the employees' values and the change in the social conditions, impacted the agility of the transformation process, the transformation engineers were reminded that reform is not something that is achieved in one day or two; rather, it is something important that organizations should be aware of in order to survive and outsmart competition and transformative challenges. Corporate reform is not something simple, such as changing from A to B. It could be an endless journey in which all players continue to pursue the constantly

changing variable B (society) from A, by constantly optimizing themselves in line with B. The transformation executives agreed that commitment to continuing constant day-to-day efforts and their immediate outcomes can be achieved only through reiterated effort, as reflected in the 150-year history of modern Japan, and above all, in the evolution of humankind from our primary ancestors.

2. The MetLife Way is a way of working that embodies the global heritage and MetLife's management philosophies (vision, mission, and values)

When discussing cultural transformation, to many employees in Japan having a direction, action indicators and a "way" of behavior is connected to psychological safety. This cultural trait of following a "way" 道 is deeply rooted Taoism and is observed in other countries all across Asia: Korea, China, Vietnam, etc. To Japanese employees, especially, having a "Way" of behavior at times of change is more important than targets and numerical indicators, as it indicates what type of action is commended and how human relationships and networks need to be re-aligned.

Therefore, it becomes important to consider a fundamental question "What is the MetLife Way?". Employees need to understand the new "Way" of conducting business and engaging with customers and with each other. Following the newly emerging MetLife Way will lead to having a shared awareness. CEO Shah defined the MetLife Way as "a series of activities implemented to cultivate a corporate culture that allows people to perform to their fullest." It can also be defined as a series of guiding principles needed for constantly pursuing and practicing efficient operations, as well as operational improvements in the field.

As a company policy, the ultimate target was for the MetLife Way to be implemented by the end of 2014 by all divisions in Japan, hosting a total employee over 4,000 people. However, as there were departments that had already adopted the MetLife Way early in the process, there was also an issue related to the interpretation of the definition of the MetLife

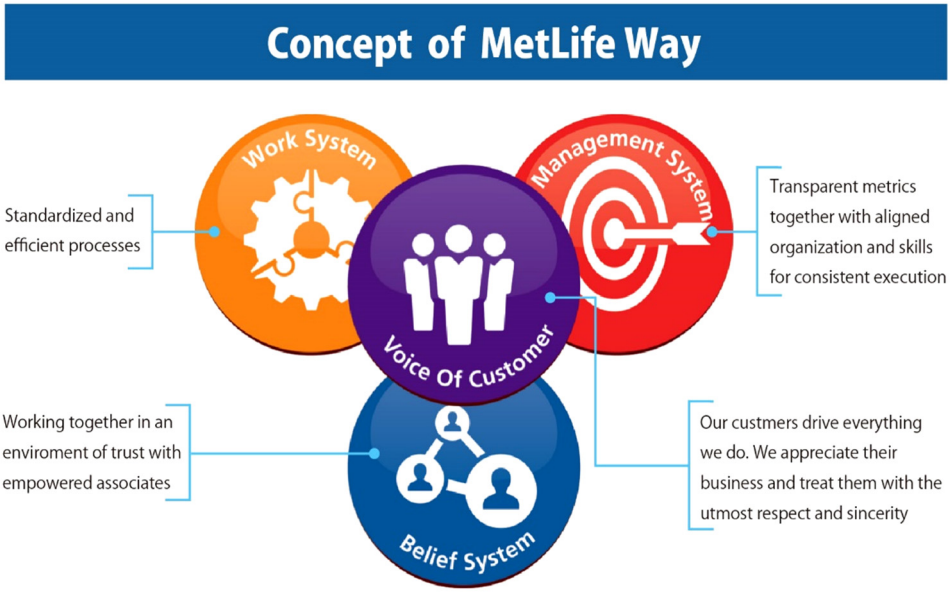
Way, as the internal roll out had begun while the "MetLife Way" had not yet been completely standardized among all employees and departments. In other words, analyzing the total Japan-based organization as a whole, the interpretation of the MetLife Way was still in the initial introduction stage at one part of the business, while other divisions were gradually informed of the upcoming introduction of the new "Way" (code of behavior). The phased roll out process of the Metlife Way gave way to various interpretations and misconceptions, which included interpretations of the "Way" being a new "corporate philosophy" or "ideology", but also a "communication tool", "corporate identity", or "business approach".

In response to the question "What is the MetLife Way?", the transformation engineers located in HR, Communications, the CEO Office, the Strategy Department and the MetLife Way Divsion had to clarify the interpretation of the new code of conduct, the "MetLife Way" as a "way" of working that embodies the MetLife's management philosophies (vision, mission, and values), its global heritage and the Japanese working spirit which had propelled the growth of the life insurance business within the Japanese market. One of the main premises of the "MetLife Way" was a hands-on approach, in which all employees conducted work in line with MetLife's management philosophies based on their own individual initiatives. Another element of the MetLife Way was the respect to the inherent corporate culture that aimed for Customer Centricity, the simplification of processes and activities, employee engagement (collaboration, authorization, and delegation), and the organizational agility needed for ensuring continuous improvement.

According to the Head of Lean Center of Expertise K.V. Ragunath, the MetLife Way was "a framework for all employees to grow as talent capable of flexibly responding to changes and reforms based on the assumption of Customer Centricity, in an aim for that growth to create a chain of positive reactions that will ultimately lead to enhanced satisfaction among customers and employees." At this early stage, one of the most common misconceptions about the "MetLife Way" was that it was just a project. The "MetLife Way" was not a task that would be applied to only

some departments and employees, but that it was the continual pursuit of change that could only be made possible by continuous application and practice by all employees, regardless of hierarchy or position.

As the "MetLife Way" was crafted as a code of conduct specific to the employee population in Japan, it was clearly not an activity, or a project with a deadline, and the most significant part of this was that was assumed on a semi-permanent basis. Accordingly, it was not an objective to be achieved in the short term; rather, it was the result of the commitment to develop a modern and sustainable corporate culture. Culture is not a structure; rather, it is a total sum of experiences, expectations and collective aspirations, as reflected in day-to-day activities. Culture can also be expected to change and evolve with day-to-day changes in the operating environment, as well as a result of Customer Centricity initiatives and employee engagement activities.



The development and implementation of the MetLife Way was preconditioned by the reform it was meant to bring over, as well as the change it would inspire and instill in each individual employee. The Telemarketing Department, as well as the Sale Division saw the immediate behavioral transformation, as the MetLife Way was rolled out internally. Prior to the introduction of the MetLife Way, sales associates would engage customers on conversations aligned with internal sales targets, with numbers and methods of engagement constantly imposed in a top-down manner. In contrast, after the roll out of the MetLife Way, customer engagements and internal communications were carried out in a bottom-up approach, giving way, in other words, to the materialization of a field-based approach. It goes without saying that the understanding of these transformative initiatives and the competence of local management was essential for bringing the MetLife Way into practice.

A new system of beliefs had to be developed and installed throughout the organization in order to strengthen the organic ties of the incumbent teams and to challenge the organizational hierarchies through these reforms, in terms of operations, communications and talent engagement, both horizontally and vertically. The constant perspective of the voice of the customer that was shared throughout this process would lead to the development of a new type of Customer Centricity, based on a firm belief in the MetLife Way.

1) Customer's Voice

Traditionally, consistent high quality of service has been secured in the field through the process of responding to customer calls by TCTs (operators), in terms of call recordings, feedback, quality checks, response to complaints, etc., and almost perfect TNPS scores had been acquired for operator response. On the other hand, from the viewpoint of the customer, customers could be separated into roughly two segments in terms of their needs in relation to the Telemarketing Department: those who simply wanted to acquire information and those who wanted a full consultation. In addition, while satisfaction was high among customers in terms of

ease and convenience of telephone connections and the prompt dispatch of materials which allowed customers to receive information quickly, it was also clear that this alone did not lead to a strong motivation for buying products. At the same time, some customers stated that they did not necessarily need for the call representative to consistently be the same person as long as information was shared within the call center.

Accordingly, in response to these issues, it was first necessary to verify the operations framework and workflow in a broad context and for everyone to be constantly aware of the MetLife Way throughout their operations. In doing so, the call center managers enabled the establishment of a process for improvements through suggestions made by employees in response to operations that had been continued as a routine. In other words, as a result of the MetLife Way implementation among TCTs that talked directly with customers, this enables the real voices of both customers and employees to be incorporated throughout the company, which in turn led to a positive chained reaction of improved customer satisfaction and an improved sense of purpose in the work force.

2) Work System

The existing work system consisted a series of seamless workflows and standardized manuals which enabled employees to respond to and to fulfill the needs of customers in an efficient manner. Using the Telemarketing Center as an example, based on the hypothesis that long-term change management would be highly effective, from June 2014 the shift was made from a representative system by individual TCTs to a pair operation system for two of three teams, and a pilot program was commenced. This pilot resulted in a strengthened sense of unity with team members and co-workers in the work of TCTs that had tended to be solitary in the past, which, at the same time, inevitably led to the development of standard skills among TCTs through the revitalization of various communication initiatives, consisting of data sharing, teaching and learning. On the other hand, this also resulted in new forms of stress and short-term concerns for individual TCTs, such as sales performance being evaluated on a pair basis.

3) Management System

The newly developed management system included reviewing and establishing workflows for facilitating agile and seamless operations, by drastically cutting down by roughly 50% the vast range of 170 types of KPI, regularly holding "issue-busting" and problem-solving meetings, standardizing coaching and focusing on culturally intelligent employee engagement.

The MetLife Way called for a proactive approach of each individual, while also requiring management to clarify the way forward for the organization and all employees to ensure that communications, talent practices and business operations were aligned. Hence, the management had to re-consider their ability to establish the MetLife Way and ensure trust and transparency at all layers of the organization and all regions of operations.

4) Belief System

Belief and trust had a strong emotional role in terms of practicing the MetLife Way in all aspects of relations within the company, such as between superiors and subordinates, but also among and between teams. For example, when a role-model manager acting as a coach (or advisor) and workers collaborate in an environment built on trust, the plus benefits that emerge from this kind of relationship overwrite fear of change and all other transformative concerns.

Belief is based on the basic premise of reciprocal relations of trust between superiors and subordinates, management and employees, and in various other aspects. It requires each person to constantly strive to elicit a sense of confidence and trust within his or her individual position and responsibilities, and to perform accordingly.

As a barometer of this, and from the basic stance of "looking forward to going to work", the employees were encouraged to consider these questions: Do the other team members listen when I'm sharing my

ideas and issues?; Does my superior actively support my personal growth and efforts to work better?; Is my department conducive to improving things?; Does my team have clear goals?

3. From the Japan "MetLife Way" to the Global "MetLife Way"

Although it was developed in Japan, The MetLife Way later became a key guideline that the New York-based global headquarters promoted throughout MetLife Group. The MetLife Way was rolled out companywide as a way of realizing the MetLife management principles, and it was expected to generate three main benefits of culture change: enhanced work efficiency, higher customer engagement and enhanced employee satisfaction. These three benefits are also embedded within four final goals (Fig. 2) of the MetLife Way.

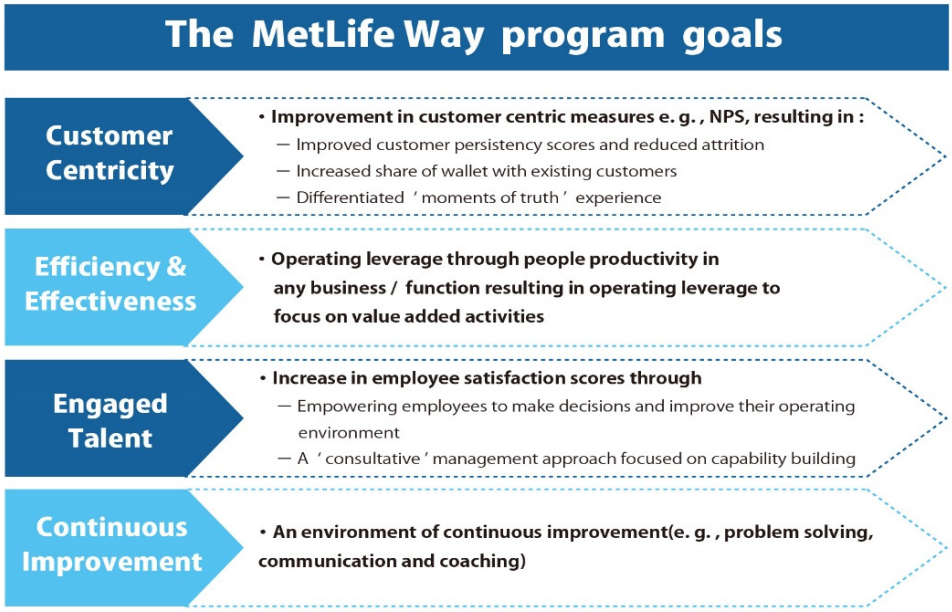


Fig 2

Achieving a close orchestration of the Work System, Management and Beliefs centred on the Voice of the Customer became the objective of global MetLife. Furthermore, 2015 became a particularly important turning point for MetLife globally, as the year when the company united its global to transform its internal culture aligned with core principles of the MetLife Way throughout the world. This led to a total switch of the entire organization, from top-down operations and communications to bottom-up and lateral engagement.

V. Conclusion

The success of corporate rebranding and organizational transformation is dependent on the efficient engagement of all employees concerned. This is a Culturally Intelligent (CQ) process, which is dependent on the sense of values, ethics and behavioral practice of the human fabric involved. Even within global organizations, what worked in one country, region or geography does not necessarily work in another. The eagerness to call a merger, and acquisition or a corporate rebranding exercise a "success" renders organizational engineers blind of cultural sensitivities and meaningful differences which need to be taken into full account when planning a large-scale transformation in various regions around the world.

As indicated in the MetLife rebranding situation in Japan, understanding local practice and incorporating cultural symbols relevant to the affected population, along with a careful selection of Emotionally Intelligent (EQ) transformation initiatives are all transformative elements which contribute to the development and sedimentation of psychological safety.

The following main results could be observed throughout the rebranding process:

1 Changes in the build environment along with digital experience initiatives lead to gradual change of behavior and to the establishment of a new "status quo" through repetitive action.

2 Early involvement and an enhanced visualization of key players in the transformation process helps the majority of the employee population develop emotional bonding with major change agents and transformation sponsors.

3 The effective utilization of cultural symbols throughout digital, written and video communications conveys comfort and leads to the development and sedimentation of psychological safety.

4 Utilization of data and emotional elements leads an orchestrated transformation, based both on logic and emotions. Employees believe what they see and trust what they feel – therefore, transformative efforts need to encompass a combination of change indicators based both on logic and emotion.

5 In Japan, organizational transformation is highly dependent on the psychological engagement of all employees. Developing and deploying and transformation process based on local business norms and inclusive of cultural sensitivities will enhance the probability and the sustainability of the transformative success.

REFERENCES

Ahron, D.; Bison, P.; Bughin, J.; Chui, M.; Dobbs, R.; Manyika, J. & Woetzel, J. (2015) The Internet of Things: Mapping the Value Beyond the Hype. McKinsey. Retrieved from: https://www.mckinsey.com/~/media/McKinsey/Business%20Functions/McKinsey%20Digital/Our%20Insights/The%20Internet%20of%20Things%20The%20value%20of%20digitizing%20the%20physical%20world/The-Internet-of-things-Mapping-the-value-beyond-the-hype.ashx

Alma'aitah, M.A.; Aljamal, W.H. & Al-Shalabi, F.S. (2013). Talent Management and Competitive Advantage: The Moderating Effect of Knowledge Integration. International Journal of Computer Applications (0975-8887) Volume 66- No.11. Retrieved from: https://pdfs.semanticscholar.org/57a9/55e8d0454dff19ac6a76d454bc572a74f38f.pdf

D. Bass, Carla (2016), "Write to Influence! Personnel Appraisals, Resumes, Awards, Grants, Scholarships, Internships, Reports, Bid Proposals, Web Pages, Marketing, and More", Amazon Kindle.

Bermudez, Jose L. (2018), "Cognitive Science – An Introduction to the Science of the Mind", Cambridge University Press, Cambridge.

Bradley, J.; Loucks, J.; Macaulay, J.; Noronha, A. & Wade, M. (2015). Digital Vortex. How Digital Disruption is Redefining Industries. CISCO. Retrieved from: https://www.cisco.com/c/dam/en/us/solutions/collateral/industry-solutions/digital-vortex-report.pdf

J. Carey, Marcus and Jin, Jennifer (2019), "Tribe of Hackers", Threatcare Press, Austin.

Chaskalson, Michael and Reitz, Megan (2018), "Mind Time", Thorsons, London.

Deuze, Mark (2009). "Journalism, Citizenship, and Digital Culture", in Z. Papacharissi (ed.) Journalism and Citizenship: New Agendas. New York, Lawrence Erlbaum/Taylor and Francis.

Dobbs, Richards; Manyika, James; Woetzel, Jonathan (2016), "No Ordinary Disruption – The Four Global Forces Breaking All the Trends", Public Affairs, New York.

Dweck, Carol S. (2017), "Mindset", Robinson, London.

Fabritius, Friederike, Hagemann, Hans W (2018).

Forbes (2018-09-26), "The World's Largest Companies", Jersey City.

Foster, David (2019), "Generative Deep Learning – Teaching Machines to Paint, Write Compose and Play", O'Reilly, Sebastopol (CA).

Gerrish, Sean (2018), "How Smart Machines Think", The MIT Press, Massachussetts.

Hadnagy, Christopher (2018), "Social Engineering – The Science of Human Hacking", John Wiley & Sons, Inc., Indianapolis.

Harari, Rival Noah (2018), 21 Lessons for the 21 st Century. London: Jonathan Cape.

Herman, Amy. E (2017), "Visual Intelligence – Sharpen Your Perception, Change Your Life", Mariner Books, Boston.

Hofstede, G. (2019). Country Comparison: What About Japan? Accessed 5 September 2019 from: https://www.hofstede-insights.com/country-comparison/japan,the-usa/

Hofstede, Geert, Hofstede, Gert Jan, Minkov Michael (2010), "Cultures and Organizations: Software of the Mind", Mc. Graw-Hill, New York.

Lacity, Mary C., Willcocks, Leslie P. (2018), "Robotic Process and Cognitive Automation", SB Publishing, Stratford-upon-Avon.

Livermore, David (2010), "Leading with Cultural Intelligence: The New Secret to Success", American Management Association, New York.

Livermoore, David (2016), "Driven by Difference", American Management Association, New York.

McCelland, J.L. and Jenkins, E. (1991), "Nature, nurture, and connectionism: Implications for connectionist models of development". In K. van Lehn (ed.), "Architectures for Intelligence: the 22nd (1988) Carnegie Symposium on Cognition", Hillsdale, NJ: Laurence Erlbaum.

Meister, Janne C. and Willyerd, Karie (2010), "The 2020 Workplace – How Innovative Companies Attract, Develop, and Keep Tomorrow's Employees Today", HarperCollins, New York.

Meyer, Erin (2016), "The Culture Map (INTL ED): Decoding How People Think, Lead, and Get Things Done Across Cultures", Public Affairs, New York.

Maylett, Tracy, EdD, and Wride, Matther, JD (2017), "The Employee Experience", DecisionWise LLC, New Jersey.

Morgan, Jacob (2012), "The Collaborative Organization", Mc. Graw-Hill, New York.

Murakami, Y. (2019). End of Heisei Era and Lifetime Employment. Japan Times. Retrieved from: https://www.japantimes.co.jp/opinion/2019/05/02/commentary/japan-commentary/end-heisei-era-lifetime-employment/#.XXFK2hrTWfA

Nishimura, I. (2018) Current Status of Talent Management in Japan. Japan Institute of Labour. Retrieved from: https://www.jil.go.jp/english/jli/documents/2018/005-06.pdf

Pink, Daniel H. (2018), "WHEN – The Scientific Secrets of Perfect Timing", Riverhead Brooks, New York

Phillips, Angela (2010), "Old Sources: New Bottles", in Natalie Fenton (ed.), New Media, Old News. Journalism & Democracy in the Digital Age, Los Angeles, Sage Publications.

Tapscott, Don. 2008. Grown Up Digital: How the Net Generation is Changing your World, New York, McGraw Hill.

Powell, M. (2016). Human Resource Management Practices in Japan: Are they really changing? Australian National University. Retrieved from: http://press-files.anu.edu.au/downloads/press/n2328/pdf/ch09.pdf

Rofaida, R. (2016). Competitive Advantage through Talent Management. Atlantis Press. Advances in Economics, Business and Management Research, Volume 15. Retrieved from: https://www.atlantis-press.com/proceedings/gcbme-16/25865988

Sejnowski, Terrence J. (2018), "The Deep Learning Revolution", The MIT Press, Cambridge, Massachusetts.

Shell, Ellen Ruppel (2018), "The Job", Penguin Random House LLC., New York.

Small, Ivan V. (2019), "Currencies of Imagination", Cornell University Press, Ithaca and London.

Sussman, Ann and Hollander, Justin B. (2015), "Cognitive Architecture – Designing for How We Respond to the Built Environment", Routledge, New York and London.

Vlad, Cristian and Ishida, Hideki (2018), "IBM Japan: Innovation and the Courage to Be Different", Globis Insights, Tokyo. https://e.globis.jp/tech-innovation/ibm-japan-innovation-and-the-courage-to-be-different

Vlad, Cristian and Watahiki, Nobumichi (2014), "Creativity and Innovation Management Case Study on T Automobile's Innovation Management Program: Creativity Development and Methodology", *Association for Regional Education and Culture* (*AREC*), No. 2, pp. 18-25.

Vlad, Cristian and Yamamoto, Kyoko (2019), "Diversity at NTT – How to Manage a Japanese Global Business in a Changing Age", Globis Insights, Tokyo. https://e.globis.jp/global-japan/diversity-at-ntt-how-to-manage-a-japanese-global-business-in-a-changing-age

Yamamoto, I. (2017). The Need for Work Style Reform in Japan & Its Impact. Japan Spotlight. Retrieved from: https://www.rieti.go.jp/en/papers/contribution/yamamoto/data/04.pdf

Yin, Robert (2003), *Case Study Research: Design and Methods*, SAGE Publications, Inc; Third ed.

Zimmerman, M. (1985). How To Do Business With The Japanese. New York: Random House. Print (page 120).

Additional References:

OECD (15 April 2019) OECD Economic Survey of Japan. Retrieved from: https://www.oecd.org/economy/surveys/OECD-Economic-Surveys-Japan-2019-PTT-English.pdf

STUDIA UBB NEGOTIA, LXIV, 4, 2019, pp. 51-78
(RECOMMENDED CITATION)
DOI:10.24193/subbnegotia.2019.4.03

TOURISM INDUSTRY EVOLUTION IN CASE OF BULGARIA AND ROMANIA

MANUELA LILIANA MURESAN[1],
RALUCA ANDREEA POPA[2]

ABSTRACT. Tourism is not only a fast expanding global industry, but also a bridge that brings closer cultures and civilizations. The present paper proposes to analyse the tourism sector and environment in the case of Bulgaria and Romania, two countries with high potential in terms of tourism yet unexplored, comparing the two countries from the economic and social perspective. The main objective of the research is to identify the main differences between the two countries and to make recommendations for the development of the tourism sector. The results obtained should show a similarity between the two countries in terms of tourism, as well as the economic and social impact of policies on the evolution of the tourism industry.

Keywords: tourism industry, employment, value added, Romania, Bulgaria, development, SWOT analysis

JEL Classification: J40, J62, L83**,** R41, Z33

Recommended citation: Muresan, M.L., Popa, R.A., *Tourism Industry Evolution in Case of Bulgaria and Romania*, Studia UBB Negotia, vol. 64, issue 4 (December), 2019, pp. 51-78, doi: 10.24193/subbnegotia.2019.4.03

[1] *Bucharest University of Economic Studies, Romania, manumuresan@gmail.com*
[2] *Bucharest University of Economic Studies, Romania, raluca.popa@yahoo.com*

I. Introduction

The last decade of the twentieth century is marked by a major expansion of the tourist area, just as in 1989, the walls fell the borders opened, the bipolar world ended. Western people have become curious to discover the countries of Central and Eastern Europe that have long been rooted behind the Iron Curtain, such as East Germany, Poland, Hungary, Romania and Bulgaria.

Nowadays tourism is an important sector in many countries' economies providing material resources for economic agents and contributing to the development of the national economies. In the case in the European Union, which is the world's number one tourist destination, tourism is the sector that got the attention in the last years. For a large number of EU countries, tourism has been a significant driver of the national economy and for the national level of employment. It does not contribute only to the economic development of countries and regions providing material resources but also brings more than that in terms of social and cultural development creating in the end well-being. With other words it is an important aspect in the lives of Europeans who like to travel.

At present, it was observed how the free time and the right to paid leave for the employees increased, a phenomenon that appeared since the post-war period so that the employees now can engage in new forms of consumption such as tourism. These changes were described as being part of what was called the "entertainment society", a term coined by sociologists in the 1970s. Through studies on the future of work and how society changes, but especially the traditional forms of employment, new services related to jobs, leisure time and new work habits (such as employment) have disappeared flexible working hours and part-time jobs) (Ariosenei, Stanciu & Morosan, 2014).

The tourism industry worldwide is one of the largest and fastest growing economic sectors relevant to the development of societies. Tourism plays a key role in creating new jobs, export revenues and internal

added value and contributes directly, on average, to 4.2% of GDP, 6.9% of employment and 21.7% of exports of services from OECD member countries. Following the evolution at global level, international tourist arrivals increased to over 1.2 billion in 2016, arrivals in OECD countries representing just over half and match the overall growth rate of 3.9% compared to 2015 (OECD, 2018).

According to the United Nations World Tourism Organization (UNWTO) publication, International Tourism Highlights 2019 Edition, Europe accounts half of the world's international arrivals and represents almost 40% of international tourism receipts, followed by Asia and the Pacific with almost one third. In 2018 Europe had 710 million international tourist arrivals (51% of the global level) increasing by 5% comparing with 2017 and in terms of money it had 570 billion USD international receipts (39% from the total at global level).

Eurostat database estimates more than 1.8 million businesses related to tourism industry, primarily SMEs, employing approximately 5.2% of the total workforce (approximately 9.7 million jobs, with a significant proportion of young people) and it generates more than 5% of EU GDP. When we talk about workforce it is important to mention tourism industry is particularly important in offering job opportunities to young people, who represent twice as much of the labor force in tourism than in the rest of the economy. Numbers prove tourism industry is the third largest socioeconomic activity in the EU after the trade and distribution and construction sectors.

European Union started to increase the attention for tourism sector and in collaboration with the Member States has taken action in the past years to implement changes to strengthen European tourism and its competitiveness. The Commission adopted in March 2006 a renewed Tourism Policy with the main objective to contribute to "improving the competitiveness of the European tourism industry and creating more and better jobs through the sustainable growth of tourism in Europe and globally". The "*Agenda for a sustainable and competitive European tourism*" fulfils a long-term commitment taken by the European Commission and

further supported by the other European institutions[3]. It builds on the Tourism Sustainability Group report and on the results of the ensuing public consultation exercise. The agenda represents a further contribution to the implementation of the renewed Lisbon Strategy for Growth and Jobs and of the renewed Sustainable Development Strategy.

There are a series of analysis on how the tourism industry should find the balance between the tourist's welfare, natural and cultural environment and development and competitiveness of destinations. From this arises a considerable number of challenges for tourism like "sustainable conservation and management of natural and cultural resources, minimizing resource use and pollution at tourism destinations including the production of waste, managing change in the interests of the well being of the community, reducing the seasonality of demand, addressing the environmental impact of transport linked to tourism, making tourism experiences available to all without discrimination, and improving the quality of tourism jobs" (European Commission, 2007). In this context countries should make efforts to remain competitive, sustainable, not focused only on increasing GDP share of tourism and to improve their policies regarding tourism.

In the context of EU being top destination for tourists and being interested in developing tourism industry this article proposes to analyse the tourism sector and environment in the case of Bulgaria and Romania, two countries with high potential in terms of tourism yet unexplored.

In terms of previous studies we found few studies regarding tourism industry especially for Romania and Bulgaria. Here we can mention Virgil Nicula, Simona Spânu, Roxana Elena Neagu (2013) where they analyzed a series of indicators of tourist movement in the eight development regions of Romania. Another author Alina Ioana Mihaela Tapescu (2015) studies the main differences between the two countries' labor markets and relates them to the differences existing in the overall tourism market.

[3] Council Resolution of 21.05.2002 on the future of European tourism (2002/C 135/01), Council conclusions on the sustainability of European tourism (8194/05, 19.04.2005), European Parliament Resolution on new prospects and new challenges for sustainable European tourism (2004/2229 INI)

Porto Natalia, Rucci Ana Clara, Darcy Simon, Garbero Noelia, Almond Barbara, (2019) built an exploratory nationally comparative tourism accessibility measure (TAI) through developing an objective set of metrics in the spirit and intent of the international treaties and missions regarding the rights of persons with disabilities. According to them this measure is a useful tool to provide information about the critical elements, stages of development, evolution and understanding of the accessible tourism approaches in each of the studied countries. Amin Sokhanvar (2019) finds that the high level of GDP shares of tourism receipts and FDI in these countries indicates that policy makers consider tourism receipts and FDI as critical factors in accelerating the economic growth. Anyu Liu, Doris Chenguang Wu (2019) conclude in their study that the impact of tourism productivity on economic growth and illustrate the spill-over effects between tourism and other sectors caused by the externalities of physical and human capital and public services. The simulation results further disclose that when the productivity of overall economy improves, inbound tourism demand expands more than domestic tourism demand, whereas when the productivity of tourism sector improves, domestic tourism consumption increases more than inbound tourism consumption.

Tourism, as a statistical definition, refers to the activity of visitors taking a trip to a destination outside their usual environment, for less than a year. The definition does not refer only to private, leisure trips but also business trips and visits to relatives. Tourism is viewed from an economic perspective so the tourists (people who travel for leisure of business) have the same consumption, travel, accommodation patterns.

II. Labor market and tourism Industry. The case of Bulgaria and Romania

One of the most relevant aspects when we speak about tourism is the capacity to generate jobs especially for young people. It is known, according to EUROSTAT database (2020), that the number of people

employed in tourism at European level is more than 13 million people, 13 % of people employed in the tourism industries were young workers (15-24), while this share was 9 % in services and in the non-financial economy. All these aspects that refer to the employment/labour market of this sector in countries like Bulgaria and Romania may show the level of development of the industry and also its productivity.

Accommodation and food services sector is one of the most important sectors from the tourism industry. At the European level it gives the highest number of employees for the industry. In the case of the two countries the numbers are shown in Table 1:

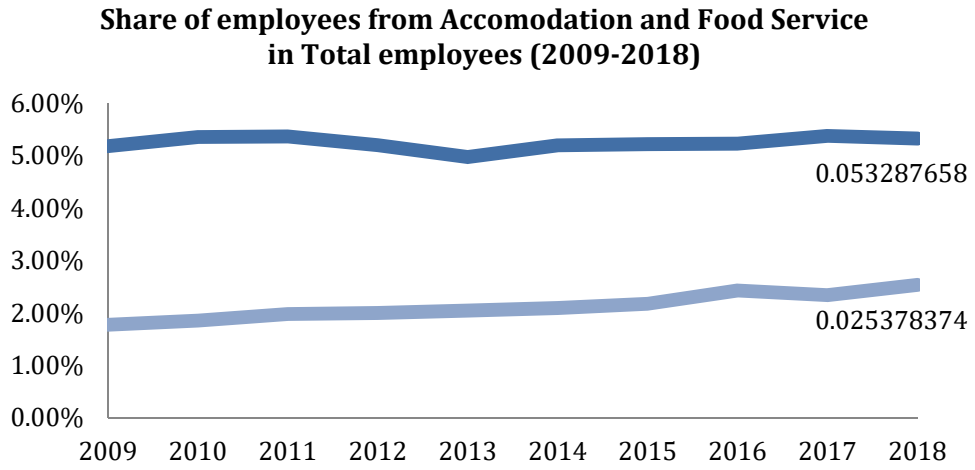
Table 1. Evolution of the employees in accommodation and food sector

Employees/ thousands persons	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Bulgaria	168,7	164,8	159,2	152,7	146,1	155,1	158,3	157,8	169,5	168,0
Romania	164,5	161,9	169,2	172,1	175,0	180,6	186,0	205,4	203,1	220,5

Source: Eurostat Database, 2020, Full-time and part-time employment by sex and economic activity (from 2008 onwards, NACE Rev)

The data available shows that the absolute number of employees in this sector increased constantly starting with 2014 for both countries. For Bulgaria after the crisis the sector faced a struggle and the number of employees decreased until 2013, arriving in 2017 higher than the level of the employees when the financial crisis ended. In 2018 decreased by 0.9%. Comparative with Bulgaria, in Romania employment in this sector did not face any decrease starting with 2010, and in 2018 it is above the level of employees from 2009 with 55 thousands employees which means an increase in 2018 of 34% comparative with 2009 and comparative with 2017 an increase of 8.6%. This shows that in the last years this sector gain importance in the case of Romania becoming bigger and more attractive for people to work. The development of the tourism

sector is reflected also by the share of its employees in total number of the employees at national level. This share for the both countries can be seen in the Figure 1.



Source: Own work, data from Eurostat Database, 2020, Full-time and part-time employment by sex and economic activity (from 2008 onwards, NACE Rev)

Figure 1. Share of employees from accommodation and food service in total employees (2009-2018)

Numbers show that Romania made a constant progress by increasing the share of accommodation and food services employees in the total number of employees starting with a share of 1.8 in 2009 and arriving to 2.54 shares in 2018. Instead in Bulgaria the share of employees in total remained almost constant during 2009-2018 increasing from 5.2% to 5.33%. If we compare the two countries Bulgaria has a higher share of employees in this sector than Romania which shows a higher activity in terms of tourism.

Table 2. Total labor cost for accommodation and food services sector

	Per employee in full-time equivalents, per month (euro)			Per employee in full-time equivalents, per hour (euro)		
Total labour costs/year	2008	2012	2016	2008	2012	2016
Bulgaria	233	319	385	1,55	2,16	2,62
Romania	394	368	495	2,55	2,38	3,19

Source: Eurostat database 2020, Labor costs NACE R2

The data available in terms of labor cost from Table 2 show that the increasing number of employees is correlated with the increasing wages and salaries from this industry. In Bulgaria the labor costs per month increased by 65% and in Romania by 25.6% (2016 compared to 2008). Still the increase in the number of employees for Bulgaria was not so high comparing with the costs which my show that the sector arrived close to its maximum capacity where in Romania there are still opportunities to be explored. In the other sectors related to tourism industry the situation is almost the same. In case of Travel agency, tour operator and other reservation service and related activities sector in Bulgaria the wages and salaries per month increased in 2016 comparing with 2008 by 121% and for Romania by 35,7%. This shows that tourism industry became more attractive for both countries especially for Bulgaria, this sector developing more than in Romania in terms of wages and salaries.

Table 3 shows the labor productivity for each subsector of Accommodation and Food Services. Labor productivity is calculated as gross value added per person employed. It gives information about efficiency of this sector for both countries.

Table 3. Labor productivity for subdivisions of Accommodation and Food sector for Bulgaria and Romania (thousands euro)

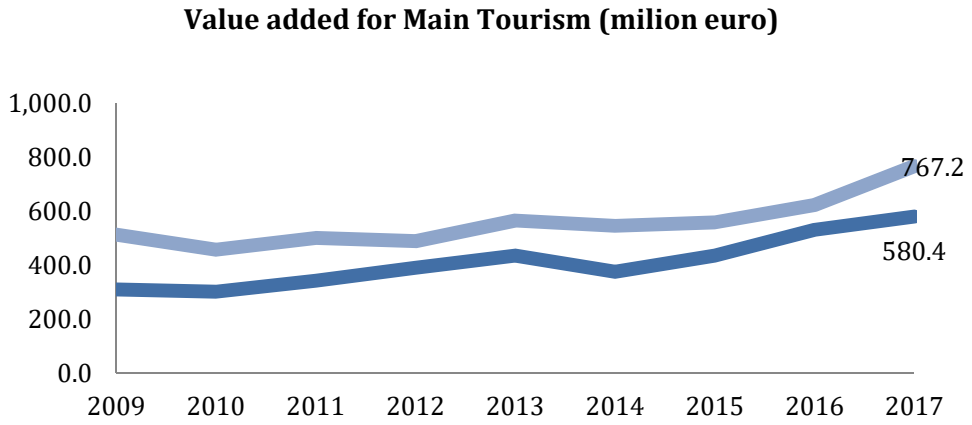
	Hotels and similar accommodation									
	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Bulgaria	7,5	6,3	6,5	7,0	8,7	9,0	7,9	9,0	10,8	11,4
Romania	14,5	8,8	8,6	9,5	9,2	9,0	11,1	10,7	12,2	13,8
	Holiday and other short-stay accommodation									
Bulgaria	n/a	1,5	-0,7	1,9	3,5	4,5	4,3	3,1	5,2	5,9
Romania	3,1	8,7	5,3	6,0	4,4	2,9	5,2	5,2	5,3	6,8
	Camping grounds, recreational vehicle parks and trailer parks									
Bulgaria	n/a	1,2	3,1	4,2	4,9	5,2	5,8	7,0	6,5	7,9
Romania	6,2	4,8	3,3	3,2	2,6	3,3	6,6	6,4	7,4	6,9
	Other accommodation									
Bulgaria	1,7	2,2	3,0	3,2	3,5	3,6	4,6	4,1	2,8	5,7
Romania	9,3	4,3	4,8	6,0	4,1	3,6	5,7	8,8	5,7	8,9
	Restaurants and mobile food service activities									
Bulgaria	3,1	2,6	2,7	2,8	3,1	3,3	3,4	3,8	4,1	4,5
Romania	4,8	4,3	4,0	3,9	3,4	3,3	4,8	5,5	6,5	7,1
	Event catering and other food service activities									
Bulgaria	3,9	4,2	3,8	3,9	4,0	4,3	4,3	4,5	5,0	5,4
Romania	6,7	5,5	6,6	4,9	5,1	5,3	5,1	7,1	7,3	10,5
	Beverage serving activities									
Bulgaria	1,8	1,8	1,7	2,0	2,2	2,3	2,4	2,4	2,8	3,0
Romania	4,5	3,1	2,8	2,8	2,7	2,2	2,4	4,1	6,1	6,2

Source: Eurostat Database, 2020, Services by employment size class (NACE Rev. 2, H-N, and S95)

In terms of accommodation sector's productivity Romania registered superior values comparing to Bulgaria even though the differences are small. The highest value is registered by Romania in the case of hotels and similar accommodation (13.8 thousands euro) but still it is bellow the level before the financial crisis. The hotel infrastructure and similar accommodation is more performant in Romania. The two countries are on an ascending trend regarding labor productivity registering progresses in the last years. Regarding food subdivision, for each of them Romania is more efficient comparing to Bulgaria. Here the differences between the two countries are higher, for example for Beverage serving activities Romania has a double value for productivity. The trend is ascendant for both countries in the last years. The increasing performance shows the countries started to give attention to tourism industry; still they are bellow European average for all the subdivisions. For the whole sector of accommodation and food Romania registered in 2017 a productivity of 8.6 thousands euro higher with 38.7 than Bulgaria. In the last 3 years the two countries had higher values of this indicator yoy.

III. Tourism sector's value created in Romania and Bulgaria

Tourism is important not only for the number of jobs it creates but also for the value this sector brings for the national economy. Further it is analyzed the status of value added for main tourism sector and total tourism sector. By Main Tourism sector it is understood the definition given by Eurostat including the following NACE codes: H511, I551, I552, I553, and N791. For Total Tourism was used the definition given by Eurostat adding to Main Tourism sector the following NACE codes: H491, H4932, H4939, H501, H503, I561, I563, N771, N772, N799.

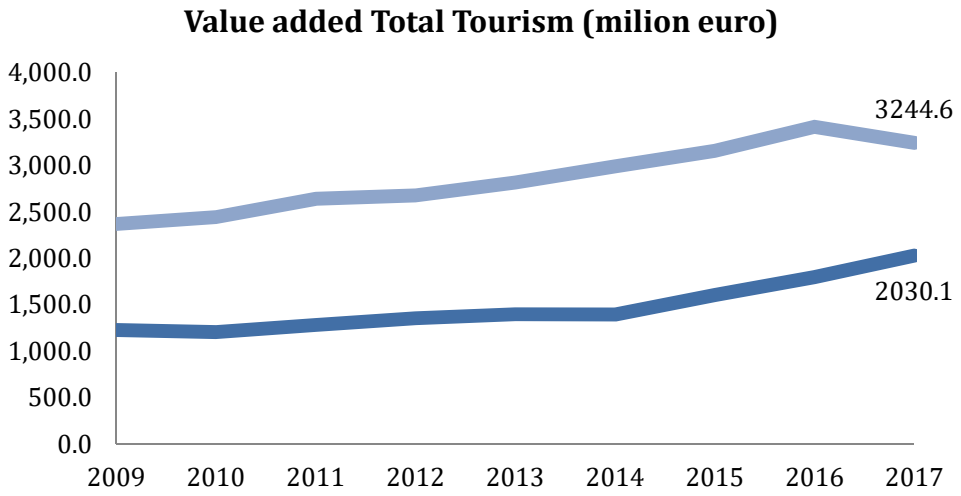


Source: Own calculation, data from Eurostat, 2020, Services by employment size class (NACE Rev. 2, H-N, S95) [sbs_sc_1b_se_r2]

Figure 2. Value added for Main Tourism sector

In the last years main tourism increased the value it creates in Romania but also in Bulgaria. Romania registers a value added in 2017 higher by 32.2% comparing to Bulgaria. Romania started to increase constantly the value added in the main tourism sector starting with 2013 and Bulgaria with 2014. This shows the importance of this sector increased in the last 4 years.

If we look at the Total tourism sector in Figure 3 Romania is also here above Bulgaria but in 2017 comparing with 2016 it registered a decrease of 5%. It is the first decrease after many years of constant increase. Starting with 2014 Bulgaria has a high increase of the value added for total tourism. Even so between the two countries remains a difference of 59%.



Source: Own calculation, data from Eurostat, 2020, Services by employment size class (NACE Rev. 2, H-N, S95) [sbs_sc_1b_se_r2]

Figure 3. Value added created by Total Tourism sector 2009-2017

The level of development of the tourism sector is given also by the share it has at Business sector level and also National level. In this sense we calculated the share of Total Tourism sector in Value added of the non-financial business economy and in Gross Value added for all activities. The numbers are presented in Table 4.

Table 4. Share of Value Added of Total Tourism

	2011	2012	2013	2014	2015	2016	2017
	Share of Value Added of Total Tourism in Value added of the non-financial business economy						
Bulgaria	7,26%	7,43%	7,43%	7,01%	6,98%	7,25%	7,40%
Romania	5,47%	5,53%	5,30%	5,36%	5,79%	5,66%	4,85%

	Share of Value Added of Total Tourism in Gross Value Added for all activities						
Bulgaria	3,56%	3,73%	3,88%	3,74%	4,07%	4,29%	4,49%
Romania	2,28%	2,29%	2,22%	2,25%	2,24%	2,24%	1,91%

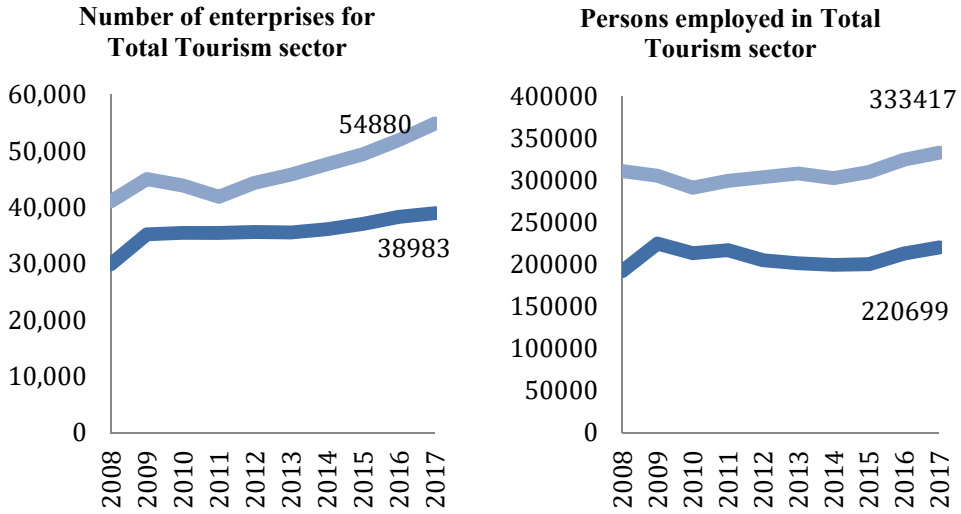
Source: Own calculation, data from Eurostat, 2020, Services by employment size class (NACE Rev. 2, H-N, S95) [sbs_sc_1b_se_r2] and Gross value added and income by A*10 industry breakdowns [nama_10_a10]

For Bulgaria numbers show tourism industry plays an important role for the business sector and for the whole economy, in 2017 representing almost 7.5% for the business sector and 4.5% for the whole economy. In the last years Bulgaria invested and also attracted foreign investors in the tourism industry and this is reflected in numbers. In case of Romania, due also to a more complex structure of the economy where other subdivision of business sector are much more developed and create more value, tourism industry doesn't play a major role even though in the past years at the national level it was shown in increasing interest for this sector. There is a high difference, approximate three percentage points, between Romania and Bulgaria in terms of share in non-financial business sector and in all activities at the national level. Here Romania has to exploit the potential of the tourism industry and to create proper visibility, promotion, public policies to support this sector.

The ecosystem created by tourism industry is growing year to year for both countries, this industry registered in 2017 in the case of Bulgaria almost 39000 enterprises and for Romania almost 55000 (Figure 4).

In Romania the number of enterprises increased sharply in the last 5 years, in 2017 comparing to 2012 by 23.6% and in Bulgaria only by 9.3%. Persons employed in the case of Romania increased in 2017 comparing to 2012 by 9.6% and in Bulgaria by 7.4%. This shows for Romania that the number of new companies between 2012-2017 generated on average 3 new jobs per year/ per company instead in

Bulgaria 4.5 jobs on average per year/per company. In Romania the dynamics of the enterprises was higher in this period but the enterprises we can conclude are mainly small sized, generating a lower number of jobs.

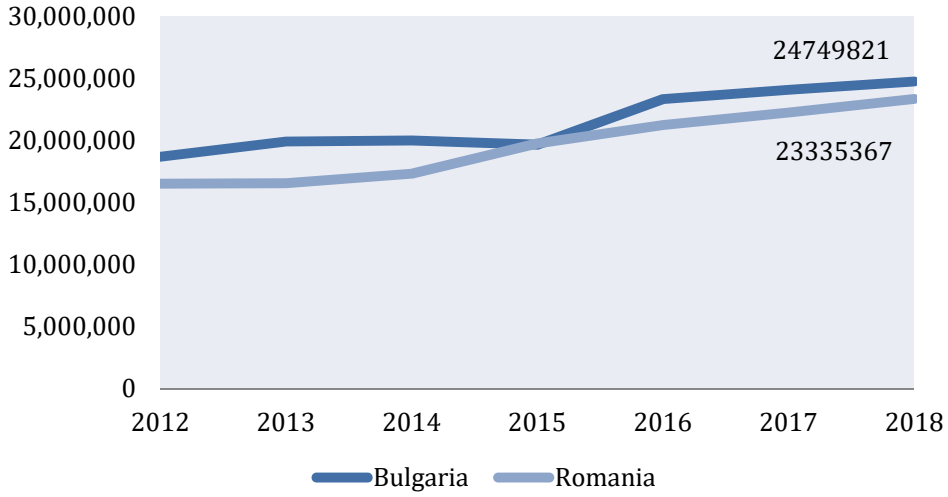


Source: Own calculation, Data from Eurostat database, 2020

Figure 4. Number of enterprises and persons employed in total tourism industry

After the analysis of the dynamics and evolution of the Tourism industry for the two countries, in order to understand the perspectives to develop further it is needed to evaluate the predisposition of the tourists for these countries.

We focused on the statistics regarding the number of nights spent by residents and non-residents at accommodation establishments. This indicator is calculated as each night a guest/tourist (resident or non-resident) actually spends (sleeps or stays) or is registered in a tourist accommodation establishment. Figure 5 shows the evolution of this indicator between 2007-2018 for Bulgaria and Romania.



Source: Data from Eurostat Database 2020, Nights spent at tourist accommodation establishments by residents/non-resident

Figure 5. Nights spent at tourist accommodation establishments by residents/non-residents (2007-2018)

Bulgaria is the leader in terms of nights spent by tourists starting with 2015, being ahead of Romania with 1.4 million nights in 2018. Comparing to 2012 both countries registered in increased interest from tourists, Romania in the last two years had a percentage increase close to 5% and Bulgaria close to 3%. If Romania continues on this trend, in the next years will overpass Bulgaria.

According to Eurostat statistics in terms of the number of tourists for 2017-2018 Romania had more that double than Bulgaria (4.4 mill persons in 2018) of tourist for personal purpose. Romania, by the potential activities for leisure, attracts more tourists aged between 25-34 years (1.03 mil. persons in 2018) and 35-44 years old (1.01 mil persons in 2018) and Bulgaria from the age category 35-44 years (0.48 mil. persons in 2018) and after 25-34 (0.39 mil persons in 2018). Romania has 2.3 times more young tourists than Bulgaria that makes us conclude Romania is more

attractive for your people and middle aged. If we correlate the number of tourists with the number of nights spent in accommodation establishments, we may conclude Romania is more attractive for short visits like city breaks instead Bulgaria for longer visits.

Table 5. Nights spent in tourist accommodation establishments, January to June 2019 and January to June 2018 (thousand nights)

	January to June 2019		January to June 2018		2019/2018 change (%)	
	Tourist accommo-dation establish-ments	Hotels and similar accommo-dation	Tourist accommo-dation establish-ments	Hotels and similar accommo-dation	Tourist accommo-dation establish-ments	Hotels and similar accommo-dation
Bulgaria	9117	8497	9214	8636	-1,1	-1,6
Romania	11409	9298	10361	8459	10,1	9,9

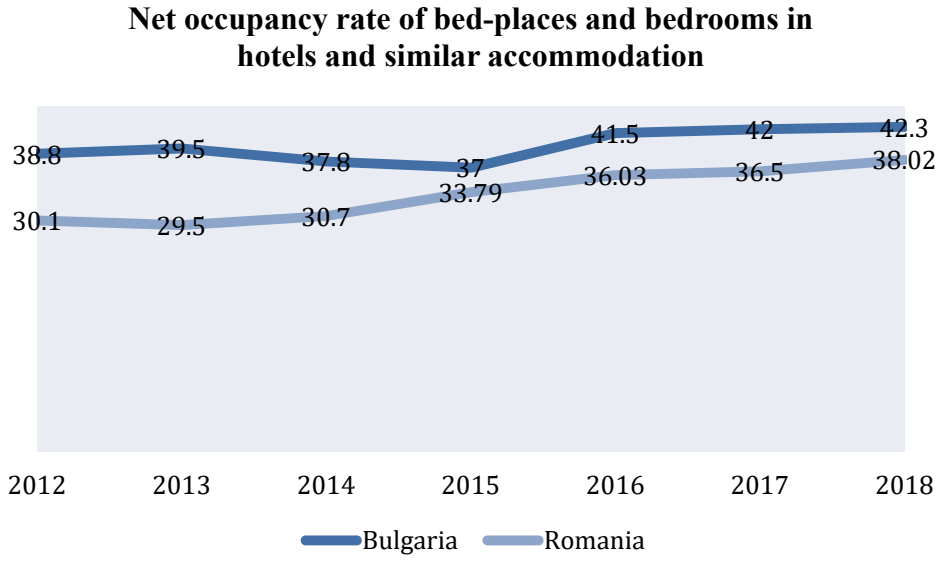
Source: Eurostat (online data code: tour_occ_nim)

Table 5 shows in case of Romania the nights spent in tourist accommodation establishments in January-June 2019 increased by 10% comparing with the same period in 2018 and in the same time in Bulgaria for the same period decreased by 1.1%. In this rhythm of growth it may be possible Romania to improve the tourism industry and to go above Bulgaria in the next years.

The attractiveness of the tourism industry is reflected by the net occupancy rate of bed-places and bedrooms and similar accommodation.

The net occupancy rate of bed places in reference period calculated by Eurostat is obtained by dividing the total number of overnight stays by the number of the bed places on offer (excluding extra beds) and the

number of days when the bed places are actually available for use (net of seasonal closures and other temporary closures). The result is multiplied by 100 to express the occupancy rate as a percentage. Figure 6 presents the results of the net occupancy rate in case of Romania and Bulgaria.



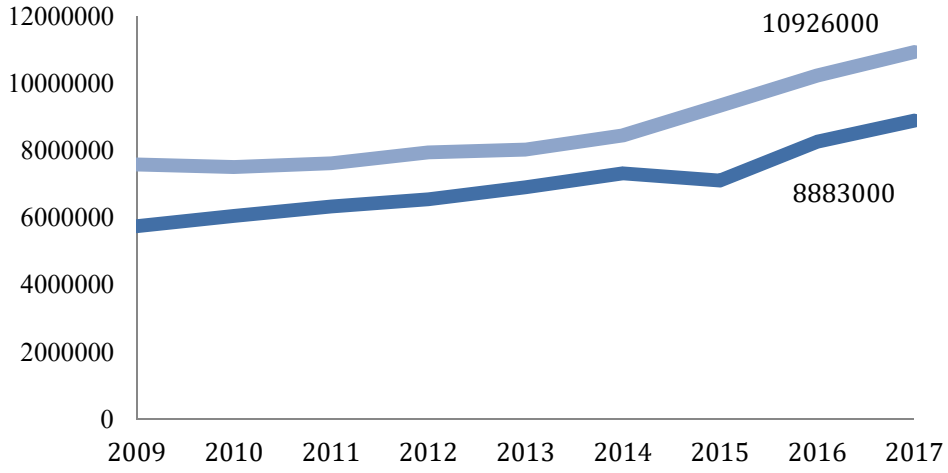
Source: Eurostat database 2020

Figure 6. Net occupancy rate of bed-places and bedrooms in hotels and similar accommodation

Both countries have a net rate bellow the EU 27 average (48.82% in 2018). Bulgaria has a higher occupancy rate but both are improving the level starting with 2015. None of the EU countries have an occupancy rate close to 100%, the highest level is Spain with 62% and the lowest is of Luxembourg (31% in 2018).

International inbound tourists (overnight visitors) according to the World Development Indicators (2020) are the number of tourists who travel to a country other than that in which they have their usual residence, but outside their usual environment, for a period not exceeding 12 months

and whose main purpose in visiting is other than an activity remunerated from within the country visited. The data on inbound tourists refer to the number of arrivals, not to the number of people traveling. Thus a person who makes several trips to a country during a given period is counted each time as a new arrival.



Source: World Bank, World Development Indicators, 2020

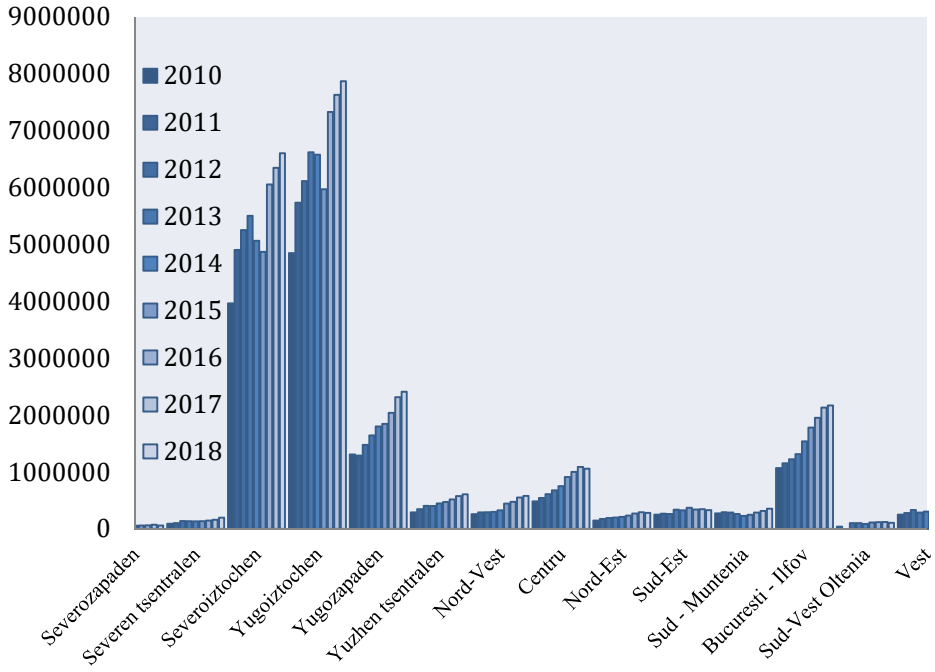
Figure 7. International inbound tourists (overnight visitors)

According to Figure 7, Romania managed to be above Bulgaria for all the period analyzed. This underlines once again Romania is attractive for tourists and started to show its potential.

If we look more into detail, at the regional level we will see in Figure 8 which regions from the 2 countries are most visited.

Bulgaria is splited in 6 regions (Severozapaden, Severen tsentralen, Severoiztochen, Yugoiztochen, Yugozapaden, Yuzhen tsentralen) and Romania in 8 regions (Nord-Vest, Centru, Nord-Est, Sud-est, Sud-Muntenia, Bucuresti-ilfov, Sud-Vest Oltenia, Vest). In the case of Bulgaria there is a very big difference between the two regions, Severoiztochen and Yugoiztochen, in terms of tourism. Both region are from the sea side part of Bulgaria.

The third region has more or lees the same evolution as Bucuresti-Ilfov region from Romania. It is the region where the capital is and the most famous mountain resort Bansko. Most visited parts of Romania are Bucuresti-Ilfov and Center. Bucuresti-Ilfov is the most developed region of Romania and it may have such a high score also because of business trips, festivals and the capital. The Center Region is the region with the mountains and cultural cities. The most unexploited region of Romania is South-West which could be promoted more for tourism.



Source: own work, data from Eurostat database 2020, code tgs00111

Figure 8. Nights spent at tourist accommodation establishments by NUTS 2 region

IV. SWOT analysis of Bulgaria and Romania

To examine the evolution of the tourism industry in Bulgaria and Romania, a SWOT analysis has been conducted. This method, SWOT analysis is one of the most important tools in tourism destination management whereas, tourism destination management is the process of setting and achieving goals, taking advantage of the human, material, natural and information resources (Goranczewski, 2010). According to (Goranczewski, 2010) this algorithm is used to identify the country's current status and development potential. A SWOT analysis will be used to determine Bulgaria's and Romania's market situation. It will examine the country's strengths (S), weaknesses (W), opportunities (O) and threats (T).

The SWOT analysis can be used further as part of the Marketing plan of both countries. Table 6 represents the SWOT analysis of Bulgaria as a tourism destination.

Table 6. The SWOT analysis of Bulgarian tourism

STRENGTHS	WEAKNESSES
• diverse nature • geographic location • climate and temperature • favorable nature for sea tourism • favorable nature for ski/mountain tourism • different types of alternative tourism such as balneology, wellness and spa, adventurous, hunting tourism, ecotourism • rich cultural and historical heritage, UNESCO sites • many 5 star hotels and resorts • cuisine- bio products produced by the locals • price- quality ratio	• mismanagement of the brand • not coherent marketing strategy • seasonality - tourism concentrated in winter and summer • lack of qualified personnel • poor infrastructure • perceiving the country as a cheap tourist destination • lack of tourist information • lack of facilities for disabled • people • lack of collaboration between the different industries • crowded sea areas • poor social media presence and e-marketing

STRENGTHS	WEAKNESSES
• clear icon of the country- the Bulgarian rose • member of the European Union • good quality of nightlife	
OPPORTUNITIES	**THREATS**
• changing consumer behavior (seeking for authenticity, the roots of tourism, for basic and simple trips • emerging trends for alternative types of tourism • exploring the less popular countries such as Cuba, Romania, Croatia, Bulgaria • political problems in neighbor countries • partnerships with foreign agencies • trainings in hospitality industry • increasing industry partnerships • participation in European projects • accessibility • developing better infrastructure • aging population - baby boomers • gastro travel • tour operators offer customized trips	• competitors summer season: Spain, Turkey, Greece, Croatia • competitors winter season: Austria, France • economic situation in Russia / visa problem- Russians main visitors • strong online media presence of other destinations • tourists becoming more rational about spending

Source: Malcheva (2017)

All of the above-mentioned factors show that Bulgaria has the chance to use its various strengths and differentiate itself among its competitors. As can be seen, if Bulgaria uses the opportunities, it has a chance to eliminate most of its weaknesses. Another key point is using the strengths in order to overcome the threats. Overall, based on its strengths, Bulgaria has the chance to overcome the threats that it might face. For example poor social media presence and e-marketing combined with strong online media presence of other destinations: might help to eliminate the threat of Bulgaria's competitor's strong social media influence (Malcheva, 2017).

Table 7. The SWOT analysis of Romanian tourism

STRENGTHS	WEAKNESSES
• natural resources • climate, fauna, and vegetation • heritages: historical monuments and archaeological remains, (monasteries, fortresses Dacian fortified churches) folk traditions, art institutions, folklore, architecture, and cultural and artistic events • Romanians hospitality • transport accessibility • increasing investment in rural areas • diversification of accommodation capacity and implementation of best practices in ecotourism models • Spa Resources • legal framework • the safety Romania offers to tourists in the current geopolitical context • qualified staff with language skills and qualifications above average • mobile and fixed network operators • travel agents and tour operators • participation in national and international tours, fairs, and tourism exhibitions • promotional packages • traditional cuisine and regional specialties • apply the rules on reduced VAT in the tourism sector.	• limited capacity and low-quality standards of tourism and leisure infrastructure • poor development of tourism services • limited access for people with disabilities to numerous tourist attractions • lack of infrastructure at the European close • forced urbanization of the rural population • difficulties in tourist capitalization of traditional crafts • the gap between the skills offered by the school and labor market requirements in tourism • black market labor • failure in considering traditional architecture in the construction of new buildings, located inside parks or in their surrounding area • low level of implementation of quality management system in the tourism sector • the high beach erosion • low salaries of staff in tourism • lack of training courses and training in tourism • poor involvement of the authorities to specific areas of tourism • non-involvement of the media in promoting tourism internally and externally • lack of an adequate legislative package • the lack of an integrated Business Travel offer • sseasonal fluctuations due to the lack of promotion that Romania is a tourist destination 365 days.

OPPORTUNITIES	THREATS
• exchange of know-how • accessing EU funds • online communication channels • MICE (Meetings, Incentives, Congresses & Events) • the geopolitical position on the continent • recovery of financing for development of human resources in the field • upward trends in terms of evolution of quality tourism offer • increasing the number of airlines • unlocking the potential of cross-border tourism (Bulgaria, Serbia), especially in the context of Danube Strategy • growing appeal of rural tourism • the desire of all actors in the field in developing a tourism law harmonized with international law • increased demand for resorts and spas • the positive development for tourism operators • request for growing tourism niche forms of tourism that are on the Romanian territory.	• the strong international competition, including unfair competition practices • lack of institutional communication • continuing migration of skilled workers • maintain an inconsistent nature of this industry • gradual dilution of Romanian traditions and customs • low awareness of the benefits of the country's tourism potential • exclusion of the business from the national development priorities • the degradation of rural architectural heritage due to the depopulation of rural communities • massive migration of young people • the destruction and degradation of the natural environment through continues pollution • insufficient budget allocated to the Ministry of Tourism to promote tourism • lack of tourism law.

Source: Muresan & Nistoreanu (2017)

SWOT analysis gives us the opportunities that best fit the strength points, overcome weaknesses in pursuing opportunities, identifying how to use the strengths to reduce vulnerability to external threats and not least to establish a defensive plan to prevent a situation where weaknesses become very vulnerable to external threats. For example, the SWOT identifies weakness: the absence of a corresponding legislative package to support the development of tourism investments and facilities given in this regard.

We note that regarding opportunities, there is a willingness of all actors in the field in developing a tourism law into line with international law, and its absence is a threat to the Romanian tourism (Muresan & Nistoreanu, 2017)

V. Conclusions

Globally, the tourism sector has grown steadily over the last two to three decades, changing tourism activities in a major industry. In the new millennium, we are witnessing another approach to how people choose to travel. Thus, there is great interest in improving what people "consume" in their leisure time, especially during travel and vacation periods. With increasing interest in spending leisure time, accompanied by a better standard of living, tourism demand has increased. Globally, we can see people's perceptions of spending their free time and diminishing their time spent at work, even the option of working from a distance, all of which lead to employment in a new form of consumption, such as tourism.

After the entry of Romania and Bulgaria into the European Union, their tourism sector has undergone a considerable period of expansion, thus the two countries have developed in recent years in terms of tourism industry and its promotion. In the case of Bulgaria, the policies were more focused on attracting tourists than in Romania. Even so, Romania has a larger tourism sector in terms of size, employment and added value. However, it has a high potential that has not been sufficiently exploited so far.

In the first part of the research paper, important information was presented on the current state of the tourism industries, from the two neighboring countries with a similar tourism offer, Romania and Bulgaria. It was continued with the analysis of a set of statistical data provided by Eurostat, data on labor markets in the accommodation and food services sector in both Romania and Bulgaria. The analysis of the data provided by Eurostat shows how they are supports the results of the literature reviews according to which tourism is an activity influenced by seasonality,

which offers flexible working conditions, such as temporary or part-time jobs, and where staff fluctuation is one of the biggest problems. To mention a few differences and similarities identified from the research analysis: compared to Bulgaria (the share of employees in total remained almost constant in the period 2009-2018 increasing from 5.2% to 5.33%), in Romania employment in this sector has not experienced any decrease since 2010, and in 2018 it is above the level of employees since 2009, so Bulgaria has a higher share of employees in this sector than Romania, which shows a higher activity from a tourist point of view. From the analysis of the labor cost, it can be seen that for the Bulgarian industry the labor costs per month increased more than for the Romanian industry, during the analyzed period. However, the increase in the number of employees for Bulgaria was not so great, compared to the costs which show that the sector has reached its maximum capacity if there are still opportunities to explore in Romania. This shows that the tourism industry has become more attractive for both countries, especially for Bulgaria, this sector developing more than in Romania in terms of wages.

Regarding the productivity of the accommodation sector, Romania registered higher levels compared to Bulgari, though the differences are small. The hotel infrastructure and other accommodations are more efficient in Romania. However, both countries have an upward tendency for productivity during the last several years. In 2017, for the entire accommodation & food sector, Romania recorded a productivity of EUR 8.6 thousand, with EUR 38.7 higher than in Bulgaria.

In recent years, Bulgaria has invested and attracted foreign investors in the tourism industry, and this is visible. For Romania, due to a more complex structure of the economy in which other subdivisions of the business sector are much more developed and create more value, the tourism industry does not play a major role, even if in the past years at the national level it has been observed the increase of interest for this sector by public and private authorities.

In the analysis of the two countries from the perspective of the tourism industry, we observe differences, but also similarities. Thus, a major difference is made by the inbound tourism from Romania, mainly from five top countries (Germany, Italy, France, Hungary and the United States of America), while for the Bulgarian tourism the main five source markets are: Romania, Greece, Germany, the Former Yugoslav Republic of Macedonia and the Russian Federation.

But regarding the tourism offer of the countries, we observe similarities: the main tourism offer in Romania consists of rural tourism, cultural tourism, historical tourism, ecotourism, health and wellness and, more recently, business tourism, and in the case of Bulgaria, also the main tourist offer consists of cultural tourism, health, spa and wellness, rural and adventure tourism and coastal tourism (European Commission, 2014b).

If Bulgaria is the leader in terms of the number of nights spent by tourists, Romania has 2.3 times more young tourists than Bulgaria, which makes us conclude that Romania is more attractive for middle-aged people. If we compare the number of tourists with the number of nights spent in accommodation units, we can conclude that Romania is more attractive for short visits such as city breaks than Bulgaria for longer visits.

From the SWOT analysis of Bulgarian and Romanian tourism, the following recommendations are needed for the development of the tourism industry in both Bulgaria and Romania: development of transport infrastructure and investments with the help of European funds, elaboration of legislation to support the hospitality industry at all levels: economic, social, educational, etc., identifying how all actors in the industry are involved in the lobbying process, promotion strategies in the online environment competitive with the first five countries in Europe, to attract tourists from areas with overcrowding problems and not in the last make public authorities aware of the economic role of tourism in developing countries, to increase the budget allocated to this sector.

REFERENCES

Arionesei, G., Stanciu, P. & Morosan, A.A. (2019), Tourism day: why is it a global phenomenon? International Coference "Sustainable Development in Conditions of Economic Instability" - 3rd Edition, 20-21 June 2014, Satu-Mare, Romania.

European Commission (2019) Tourism Satellite Accounts in Europe 2019 Edition, ISBN 978-92-76-12188-6 ISSN 2529-3222.

European Commission, (2010) Communication from the Commission to the European Parlament, the Council, the European Economic and Social Committee and the Committee of the Regions - Europe, the world's No 1 tourist destination – a new political framework for tourism in Europe.

European Commission, (2019) Eurostat Regional Yearbook.

Goranczewski, P. (2010). SWOT analysis in the formulation of tourism development strategies for destinations.

Liu, A. & Chenguang Wu, D. (2019) Tourism productivity and economic growth, Annals of Tourism Research 76 (2019) 253–265.

Muresan, M.L., Nistoreanu, P., (2017). The impact of legislation on the Romanian tourism sector. Vol. 1. Bucharest: Editura ASE. 462-469.

Nicula, V., Spânu, S., Neagu, R., E., (2013) Regional Tourism Development in Romania - Consistency with Policies and Strategies Developed at EU Level, Procedia Economics and Finance, vol 6, 530 – 541.

Porto, N., Rucci A., Darcy, S., Garbero, N., Almond, B., (2019) Critical elements in accessible tourism for destination competitiveness and comparison: Principal component analysis from Oceania and South America, Tourism Management 75 (2019) 169–185.

Sokhanvar, A. (2019) Does foreign direct investment accelerate tourism and economic growth within Europe? Tourism Management Perspectives 29 (2019) 86–96.

Tapescu, A., I., M. (2015) Romanian versus Bulgarian Tourism Labour Market Analysis, Procedia Economics and Finance 27 (2015) 375 – 384.

World Tourism Organization (2019) International Tourism Highlights.

Web Resouces:

European Commission, 2014a. Country Report: Romania, available online at http://ec.europa.eu/enterprise/sectors/tourism/tourism-businessportal/documents/business/internationalisation/romania_country_report.pdf.

European Commission, 2014b. Country Report: Bulgaria, available online at http://ec.europa.eu/enterprise/sectors/tourism/tourism-businessportal/documents/business/internationalisation/bulgaria_country_report.pdf.

https://ec.europa.eu/eurostat/statistics-explained/index.php/Tourism_industries_-_employment

https://ec.europa.eu/eurostat/web/tourism/data/database

https://ec.europa.eu/eurostat/web/tourism/smap2

https://www.unwto.org/country-profile-inbound-tourism

Malcheva, K. (2017). *Analyzing the potential for developing luxury tourism in Bulgaria, Bachelor Thesis of Business Administration in Tourism and Hospitality Management, Modul Vienna University,* https://www.modul.ac.at/uploads/files/Theses/Bachelor/undergrad_2017/Thesis_1411047_MALCHEVA_Katrin.pdf

OECD (2018), *OECD Tourism Trends and Policies 2018*, OECD Publishing, Paris, https://doi.org/10.1787/tour-2018-en.

STUDIA UBB NEGOTIA, LXIV, 4, 2019, pp. 79-128
(RECOMMENDED CITATION)
DOI:10.24193/subbnegotia.2019.4.04

THE DRIVERS OF RURAL ACCOMMODATION DEVELOPMENT IN ROMANIA: A PRELIMINARY STUDY

CORNELIA POP[1], MARIA-ANDRADA GEORGESCU[2], CRISTINA BALINT[3]

ABSTRACT. Modern rural tourism is an umbrella concept, including a wide range of (niche) type tourism related to the countryside/rural areas. The central attractions of rural tourism are induced by the closeness to nature and new cultural experiences related to (local) history and intangible heritage. The interest for a rural destination being increased by an environment considered appealing from natural and aesthetic viewpoints, allowing for various forms of recreation.

This preliminary study answers the following question: *which are the drivers of the accommodation development in rural areas in Romania?* taking into consideration only the potential tourist attractions that could be identified based on official records (e.g. historic monuments, the status of resort for a given locality, the registered vineyards, the two rankings from 2008 and 2012). The overall conclusion of the study is that the potential tourist attractions have a relatively small influence on the development of Romanian rural lodgings. Therefore, more factors should be added in order to understand the accommodation development in rural areas in Romania.

Key words: rural tourism, lodging, resources, Romania

JEL Classification: L83

[1] *Prof. dr., Faculty of Business, Babes-Bolyai University, Cluj-Napoca, Romania, cornelia.pop@tbs.ubbcluj.ro*
[2] *Assoc. Prof. dr., University of Political Studies and Public Administration, maria-andrada.georgescu@administratiepublica.eu*
[3] *Lecturer dr., Faculty of Business, Babes-Bolyai University, Cluj-Napoca, Romania, cristina.balint@tbs.ubbcluj.ro*

Recommended citation: Pop, C., Georgescu, M.A., Balint, C., *The Drivers of Rural Accommodation Development in Romania: A Preliminary Study*, Studia UBB Negotia, vol. 64, issue 4 (December), 2019, pp. 79-128, doi: 10.24193/subbnegotia.2019.4.04

I. Introduction and literature review

Modern rural tourism is an umbrella concept, including a wide range of (niche) type tourism related to the countryside/rural areas (Lane & Kastenholz 2015; Figueiredo et al., 2013; Aref & Gill 2009). Rural tourism development can trigger the growth of other tourism-related activities in the countryside, and might contribute to the social and economic regeneration of rural areas (Iorio & Corsale 2013). A significant benefit of rural tourism is the diversification it brings to the rural economy (Panyik et al., 2011). Nonetheless, rural tourism should rather complement the existing activities in order to preserve the countryside authenticity (Hall 2004; Tao & Wall 2009).

The central attractions of rural tourism are induced by the closeness to nature and new cultural experiences related to (local) history and intangible heritage (Figueiredo et al., 2013). The interest for a rural destination being increased by an environment considered appealing from natural and aesthetic viewpoints, allowing for various forms of recreation (Banski & Bednarek-Szczepanska 2013).

While Romania rural tourism potential is considered to be important (Avram 2020 in press; Gavrila-Paven 2015), the problems related to Romanian rural areas are also multiple and complex (Tudorache et al., 2017; Calina et al., 2017; Davidescu et al., 2018). Moreover, despite the existence of a national strategy for tourism development, the attention given to rural tourism was rather insignificant, these form of tourism not finding a way among the priorities of national and/or regional authorities (Ibanescu et al., 2018).

At the end of 2019, of the total of 2,861 communes in Romania, 1,869 communes have no registered lodging facilities between 2005 and 2019, according to the Romanian National Institute of Statistics (NIS). The remaining 992 communes registered at least one lodging facility, of which only 6 communes registered at least 30 accommodation units, while only 4 registered 50 or more similar units (NIS).

The number of communes with registered accommodations grew from 441 in 2005 to 862 in 2019, an overall increase of 95.46%, with only one county (Ilfov) registering a decrease of 40.00%, while only other one county (Botosani) registered no variation in the number of communes with registered lodgings (NIS) as Annex 1 shows. Nonetheless, some extreme situation can be highlighted: 146 communes for which between 10 and 48 potential tourist attractions were identified, have no registered accommodations between 2005 and 2019; at the other ends of the spectrum are 139 for which no potential tourist attractions were identified, though 27 of these communes registered at least one lodging facility, according to NIS.

Through NRDP (National Rural Development Program) in order to support the tourism development in rural areas, in 2008, a ranking of tourist potential of (almost) all the 2,861 communes was published, followed by a new ranking issued in 2011/2012 for only 948 communes considered to have a high tourist potential.

The natural question that arises from these brief observations is: which are the drivers of the accommodation development in rural areas in Romania? While several academic papers (Nistoreanu 2018; Coros 2020 in press) present a classification of Romanian rural localities based on what are considered well known local resources, to the best of authors' knowledge this question was not investigated in-depth, for all the Romanian communes and no previous academic similar research was published.

This preliminary study answers the above-formulated question taking into consideration only the potential tourist attractions that could be identified based on official records (e.g. historic monuments, the status of resort for a given locality, the registered vineyards, the two

rankings from 2008 and 2012). The overall conclusion of the study is that the potential tourist attractions have a relatively small influence on the development of Romanian rural lodgings. Therefore, more factors should be added in order to understand the accommodation development in rural areas in Romania.

II. Material and methods

The identification of the 2,861 communes was based on the NIS classification offered through the Territorial-Administrative Units' Register (SIRUTA). Further, for all the communes, the following data were extracted:

1. the accommodation units, based on NIS data via Tempo-online, for the years 2005, 2010, 2015, and 2019. The start year 2005 was chosen for the following reasons: a) is the year before the publication of the Master-Plan for Tourism in Romania 2007-2026; b) the first database with the accommodation units offered by the Ministry of Tourism/National Authority for Tourism (MoT/NAT) is available for 2005; no comparisons previous to 2005 are possible between the data offered by NIS and MoT/NAT; c) by the end of 2005 almost all administrative units' upgrades (from communes to towns or from villages to communes) were completed; the very few registered in 2006 have no important consequences on the study.

2. the 2008 ranking and 2012 ranking for the communes; both rankings quantify the communes' tourist potential based on a number of points; the 2008 ranking uses the 1 to 10 scale; the 2012 ranking uses a scale from 1 to 56.4, though the majority of the 948 ranked communes have between 20 and 35 points. No explanation could be found regarding how the two rankings were established. Moreover, the assignment of rankings in 2008 and 2012 seems not to follow a uniform process: while 27 communes declared resorts (either of local or national interest) were not taken into consideration by the 2008 ranking, the 2012 ranking assigned points to 25 of these communes, while leaving 3 resorts of local interest not ranked.

3. the protected natural areas based on the Romanian Government Decision 1284/2007 and the Order 46/2016 issued by the Environment Ministry.

4. the historic monuments made available by the Ministry of Culture at https://patrimoniu.ro/monumente-istorice/lista-monumentelor-istorice

5. the museums were not included in this study because the inventory offered by the Romanian National Institute of Statistics is clearly incomplete, excluding local museums, based on the local communities' efforts to preserve various historic, cultural, and natural attractions (see Pop & Balint, 2020 in press)

6. the recognized wine regions, vineyards and independent wine centers as announced by the National Office of Wine and Wine Products through the Order 1205/2018.

7. the recognized sources of mineral waters in Romania provided by the National Agency for Mineral Resources through the Orders 175/2008 and 139/2018.

8. the balneary potential based on a range of sources crossed with the information regarding the mineral waters since no official list for the localities with balneary resources could be found.

9. the status of resort (either of national or local interest) as provided by MoT/NAT and the last updates for 2019 provided by http://turismbalneo.ro

The gathered data presented above suffered the following processing:

1. for the accommodation units, an average for the four observations was calculated; however, when at least one accommodation unit was registered in any of the four years, the average was considered 1.

2. for the 2008 ranking the following conventions were applied: a) in the cases of 10 communes without ranking in 2008, the lack of ranking was replaced with 0; b) in the case of the localities declared resorts for which no 2008 rank was available, the lack of ranking was replaced with an average number of points (6) resulting from taking into consideration the ranking available for the localities declared resorts later than 2008; this processing was applied for 28 communes.

3. a variable called 'extra-resources' was created in order to measure the influence of following potential tourist resources: the presence of the vineyards/independent wine centers; the existence of mineral waters and balneary potential; the status of resort for the respective locality; the presence of a natural or cultural World Heritage Site (WHS). For each of these tourist resources, 1 point was allocated. Though the lists of protected areas and of historic monuments include the WHS, it was considered that the inclusion of a certain natural area or a cultural monument on the WHS list enhances the tourist potential of the respective locality/localities as shown by Iorio & Corsale (2013), Reyes (2014). Therefore, the maximum number of points for this variable (extra-resources) is 4.

For the present research, three groups of communes were considered: a) the one including all the 2.861 localities; b) the second group includes the 1,913 localities with no 2012 rankings, and c) the third group including the 948 localities ranked in 2012.

The following hypotheses were formulated:

H1 (for all communes): 2008 rank is influenced by the tourist resources

H1.1 (for the 1,913 communes): 2008 rank is influenced by the tourist resources

H1.2 (for the 948 communes): 2008 rank is influenced by the tourist resources

H2 (for the 948 communes): 2012 rank is influenced by the tourist resources

H2a (for the 948 communes): 2012 rank is influenced by the tourist resources and the 2008 rank

H3 (for all communes): lodgings are influenced by the tourist resources and the 2008 rank

H3.1 (for the 1,913 communes): lodgings are influenced by the tourist resources and the 2008 rank

H3.2 (for the 948 communes): lodgings are influenced by the tourist resources and the 2008 rank

H3.2a (for the 948 communes): lodgings are influenced by the tourist resources and the 2008 rank and the 2012 rank

For testing the above hypotheses the OLS (ordinary least square) multiple regression was used. The results were completed with the application of PLS-SEM (partial least squares-structural equation modeling) which allows more complex links between the investigated variables. The names of the variables are presented in Annex 6 and those of latent variables are presented in Annex 9 to 11.

III. The overall situation of tourist resources and lodgings in rural areas by counties, regions and macro-regions

Annex 1 presents the communes with tourist potential. The number of communes in columns 1 to 8 is absolute; meaning that one commune can appear in one or all the eight columns, hosting multiple tourist attractions.

As Annex 1 shows, over 65% of Romanian communes have under their administration natural protected areas, about 84% have registered historic monuments, and about 27% of the communes have or are part of registered vineyards and independent wine centers. Macro-region 1 and Macro-region 4 are slightly above or around the national average. Macro-region 2 is below the national average with the number of communes

hosting historic monuments (only about 78% of the communes), though it is well over the national average (with 38%) regarding the communes with vineyards/wine centers. Macro-region 3 is well below the national average (with 49%) concerning the communes with allocated natural protected areas.

At regional level, Center, South-East, and West regions have the more balanced percentages of communes with allocated natural areas and registered historic monuments, though only the Center region is above the national average in both cases, while the other two regions are above the national average only in the case of communes with natural areas. The highest imbalances can be seen in South-Muntenia and South West regions, where the communes with allocated natural areas represent only 50%, respectively 58%, while the communes with historic monuments represent 85%, respectively 93%. North-East, South-East and South-West regions have between 30% and 48% communes as part of vineyards/ wine centers, while the West region has the lowest level (7%) of communes being part of vineyards/wine centers.

At county level, the number of counties with a percentage of communes lower than the national average is equal, 18, in both cases of communes with allocated natural areas and communes with historic documents. Though, several counties have a relatively low number of communes with natural areas: Dambovita (26%), Ilfov (31%), Prahova (33%), Salaj (40%), and Valcea (46%), while in the case of communes with historic monuments only Braila registered 53%, being the only county with a percentage lower than 60%.

The number of counties with a percentage of communes with vineyards/wine centers above the national average is 19 of which 7 counties with a percentage of these communes of 50% (Alba and Constanta with 52%; Iasi with 60%; Dolj with 62%; Mehedinti with 64%; Vaslui with 83% and Galati with 95%).

After intersecting the information regarding the identified factors of tourist potential, the number of communes for which no tourist potential could be identified (based on allocated natural areas, historic monuments,

vineyards/wine centers, mineral waters, natural/cultural WHS, and the status of resort) was of 139 communes at national level, representing about 5% of total communes. The highest concentration of communes with no tourist potential can be found in Macro-region 2 (46 communes), followed closely by Macro-region 3 (42 communes), while Macro-region 4 has 33 communes with this situation and Macro-region 1 only 18 communes. At regional level, South-Muntenia is on top with 41 communes, followed by North-East region with 29 communes and West region with 23 communes. At the other end of the spectrum, the Center region has only 2 communes with no tourist potential. At the county level, 10 counties have 0 communes with no tourist potential (of which 5 are in Macro-region 1), other 7 counties have only 1 commune with no tourist potential, 9 counties have 2 to 4 communes with no tourist potential, 14 counties have 5 to 9 communes with no tourist potential, while 2 counties have each 12 communes with no tourist potential. These last 2 counties are Prahova and Timis (Annex 1).

The 2008 ranking did not rank 38 communes, of which 28 communes have the status of resorts either of national or local interest.

The 2012 rank was more selective and included only 948 communes (about 33% of the total communes) while leaving without ranking 1,913 communes. Macro-region 2 has the highest number of communes (620 communes) not ranked in 2012, followed by Macro-region 4 with 505 not ranked communes, while within Macro-region 1, the number of communes with no 2012 rank is only 340. At the regional level, only two regions have less than 200 communes with no rank in 2012: Center region with 122 communes and West region with 189 communes. At the county level, 21 counties (of 41) have a percentage of communes with no 2012 rank higher than the national average of 67%. Of these 21 counties, 6 have this percentage between 90% and 98%. These 5 counties are: Calarasi, Giurgiu, Ialomita and Teleorman from Macro-region 3, and Olt and Timis county from Macro-region 4.

Of these 21 counties with a high percentage of no 2012 rank, 2 counties are those with 12 communes with no tourist potential, while other 11 counties have between 5 and 9 communes with no tourist potential.

Though at the other end of the specter, 2 of these 21 counties have 0 communes with no tourist potential.

By intersecting the data for 2008 rank and 2012 rank, only 13 localities have not been ranked by both rankings, of which 3 communes with the status of resort (see note* of Annex 1). Therefore only the same 10 communes were considered with no tourist potential by both rankings. However when crossing the information of the two rankings with the factors of tourist potential, only 2 of these 10 communes have no identified tourist potential: Poieni-Solca (Suceava county) and Pesac (Timis county).

While the situation presented above suggest a certain correlation between the factors considered for tourist potential and both rankings, it also suggests that the rankings were based on a self-assessment of communes' authorities and the entire extent of the tourist potential is either undervalued or ignored.

Annex 2 depicts the situation of all the communes using the average 2008 ranking, the most frequent 2008 rank, and the average number of lodgings for the period 2005-2019 (as explained in section Material and methods). At the national level, the average 2008 rank is 3.09 (out of a maximum un 10), and the most frequent rank is 2 (for 30.93% of the communes). The average percentage of communes without lodgings is about 65% at national level. Of the communes with registered lodgings, at national level, about 64% have only 1 lodging, other 34% have between 2 and 19 lodgings, while only 2% have 20 lodgings or more. Of these 2% of communes, 60% have the status of resort (see Annex 2). Only Macro-region 1 has an average 2008 rank higher than the national average, of 3.94, followed by Macro-region 4 with an average 2008 closer to the national average of 3.06, while Macro-region 3 has the lowest average 2008 rank of 2.53. Macro-region 1 is the only one having 4 as the most frequent 2008 rank, registered for about 31% of the communes. Macro-region 1 it is also the sole one with about 48% of the communes with no lodgings, well below the national average of 65%, while all the other regions have a percentage of communes with no lodgings above the average (between 70% and 75%). Also within Macro-region 1, the communes

with 1 lodging represent about 59%, with 5% under the national average of 64%, followed by Macro-region 2 with 62%, while in Macro-region 3 and 4, 72% of the communes have only 1 lodging. The 'deficit' of 5% for the communes with 1 lodging registered by Macro-region 1, becomes a 'surplus' in the case of communes with 2 to 19 lodgings, which represent 39% within Macro-region 1, compared with the national average of 34%. Macro-region 2 is the only one with 4% of the communes having 20 lodgings or more, a situation due not to resorts, but to localities situated in Tulcea county (in or in the proximity of Danube Delta), Neamt county and Suceava county (see Annex 2).

At regional level, only 3 regions have an average 2008 rank higher than 3: North-West and Center (from Macro-region 1), and West (from Macro-region 4). Also, North-West and Center regions have 4 as the most frequent 2008 rank, while all the other regions have 2 as the most frequent 2008 rank. Besides, North-West and Center (from Macro-region 1), and West (from Macro-region 4) are the only regions having a percentage of communes with no lodgings lower than the national average of 65%; these percentages are 55% for North-West, 40% for Center, and respectively 56% for West region. Additionally, North-West and Center region have a percentage of communes with 2 to 19 lodgings above the national average of 34%, of 36% (North-West) and respectively 43% (Center). The third region with such a percentage above the national average for this category of communes is North-East, with 38%. North-East and South-East region (both part of Macro-region 2) are the only with a percentage of communes with at least 20 lodgings above the national average (2%), of 3% and respectively 6%. The details regarding the name of these communes are presented in Annex 2.

At national level, 8 counties of 41 have an average 2008 rank above 4, and the concentration of these counties is in Macro-region 1, two counties (Bistrita-Nasaud and Maramures) from the North-West region and five counties (Alba, Brasov, Covasna, Harghita, Sibiu) from Center region. The 'outsider is Hunedoara county, from West region, Macro-region 4. All these 8 counties have the following common features: a) 4 is the most

frequent 2008 rank with Brasov county having about 44% of the communes with this rank; b) the percentage of communes with no lodgings is well below the national average of 64%, ranging between 17% and 55%; the counties with the lowest percentage of 0 lodgings communes are Covasna (17%) and Brasov (27%), while Bistrita-Nasaud is the county with 55%; c) six of these eight counties have also a higher number of communes with 2 to 19 lodgings; the percentage of these communes ranges between 36% and 55%, in all cases above the national average of 34%; four of these counties have this percentage of communes close to or above 50% (Maramures and Harghita with 48%; Brasov with 49% and Covasna with 55%); the exceptions are Bistrita-Nasaud with only 19% and Hunedoara with 26%.

Furthermore, while only 2 counties (Brasov and Harghita) host communes with at least 20 lodgings, the percentage of these communes is also significantly higher than the national average of 2%. In the case of Brasov the percentage is 5%, while in the case of Harghita is 6%. For more information see Annex 2.

In addition, 7 more counties have 4 as the most frequent 2008 rank, though they register an average rank lower than 4, between 3.13 and 3.77, situating them above the average rank at the national level of 3.09. These counties are: Cluj and Salaj (North-West region), Mures (Center region), Neamt (North-East region), Tulcea (South-East region), Arges (South-Muntenia region), and Arad (West region). One main feature of these counties is the fact that despite the relative high percentage of communes with rank 4 (over 30% in five cases), these percentage is compensated by a cumulative higher percentage for communes with ranks 2 and 3. Similar to the previos group of counties, within 5 of these counties, the percentage of communes with 0 lodgings is below the national average (64%), ranging between 41% and 60%. The only exception is Salaj county with 69%. Also four of these seven counties have a percentage of communes with 2 to 19 lodgings higher than the national average (34%), ranging between 37% and 48%. The exceptions are the counties of Salaj, Mures, and Arad. Furthermore, 3 of this group of counties include communes

with at least 20 lodgings. Tulcea county leads with 16%, followed by Neamt county with 5%, while Arges county is at 2%, the same as the national average.

At the other end of the spectrum, Annex 2 reveals three counties with an average rank lower than 2: Calarasi, Ialomita, and Teleorman all in South-Muntenia region. These counties also have 1 as the most frequent 2008 rank. Just another county, from the same South-Muntenia region, has 1 as the most frequent 2008 rank, though its average rank is above 2 (Giurgiu).

Four counties have more than 90% of the communes with no lodgings: Botosani (North-East region), Ialomita and Teleorman (South-Muntenia region), Olt (South-West region). Within five counties, all the communes with registered lodgings, host only one lodging: Galati (South-East region), Giurgiu, Ialomita and Teleorman (South-Muntenia region), Olt (South-West region).

The situation presented in Annex 2 suggests a certain level of correlation between the 2008 ranking and the number of communes with registered lodgings and, to some extent, a correlation between the 2008 ranking and the number of lodgings.

Annex 3 presents how the number of communes reporting at least 1 lodging evolved between 2005 and 2019. The discrepancy in the numbers reported in Annex 1 and 2 comes from using the average, as explained in the *Material and methods* section.

As Annex 3 shows, Macro-region 1 is leading with the highest number of communes with lodgings, retaining its top position since 2005. It is followed by Macro-region 2, Macro-region 4, and on the last position is Macro-region 3. Nonetheless, when calculating the growth rate between 2005 and 2019, Macro-region 4 is on top, with a rate of about 141%, well above the 95% at national level, while all the remaining 3 Macro-regions registered growth rate lower than the national level, with Macro-region 3 on the last position. The situation of Macro-region 3 is generated by the -40% decrease rate in the case of Ilfov county, the only one with a decrease in the number of communes reporting lodgings.

At regional level, the Center region is leading from the number of communes with lodgings followed in the descending order, by North-West, North-East, South-Muntenia, West, South-East regions, and, in the last position, the South-West region. Nonetheless, the growth rate of these communes provides a different ranking: South-West region is on top with a rate of about 185%, followed by the West region with 117% and by South-Muntenia region with 102%. North-West and North-East regions rank on 4th and respectively 5th position with growth rates above the national average (95%), but lower than 100%. Center region is on the 6th position with a lower than national average rate of 82%, while the South-East region is on the last position with a rate of 65%.

At county level it would be difficult to establish the ranking, based on the number of communes with lodgings since the positions changed with every new observation. However, it is interesting to mention that in 2005 only four counties registered more than 20 communes with lodgings: Cluj, Harghita, Suceava, and Arges. By 2019, this number grew to 24 counties. Within Central and West regions all the component counties have more than 20 communes with lodgings, while within the North-West region 5 of the 6 counties are in this situation.

When the growth rate is considered at the county level, the following groups can be distinguished:

a) only Ilfov county has a negative growth rate of -40%; b) only Botosani county has a 0% growth rate; c) 17 counties have a growth rate between 1% and 99%; within this group, a number of 6 counties have a growth rate lower than 50% (Constanta, Cluj, Arad, Iasi, Harghita, and Vrancea); d) 19 counties have a growth rate between 100% and 399%; e) 3 counties registered growth rates of 400% or more: Mehedinti (400%); Galati (500%); Vaslui (900%); this group owns its situation to a very low number of communes with lodgings in 2005, between 1 and 3 communes; while the absolute number of communes is not very high in 2019, any increase from such a low level represents an important jump ahead.

Crossing the information in Annex 3 with the information in Annex 2, no clear pattern could be established for the growth rate of communes with lodgings in relation to 2008 ranking. While the case of

Macro-region 4 seems to suggest that the growth rate could be higher in relation with a 2008 ranking of 3, this is contradicted by the Macro-regions 1 and 2 which have almost similar growth rates with 2008 rankings of 3.94 and respectively 2.83. The same contradictory results can be observed at the regional level: the best example is of the North-East and South-West regions with a 2008 ranking of 2.71 and respectively 2.70 and with growth rates of about 97% and respectively 185%. The situation is similar at the county level.

Based on the information presented above, there can be suggested that the 2008 ranking was established mainly based on the existing lodgings rather than on the other factors that can generate tourist attractions.

Annex 4 presents the structure of the 2,861 communes taking into consideration the average number of lodgings, 2008 ranking, and the identified number of tourist attractions. The communes with 2 to 19 tourist attractions are the most prominent group, therefore it represents the highest number of localities within all the 4 clusters included in Annex 4 (communes with 0 lodgings, communes with 1 lodging, communes with 2-19 lodgings and communes with at least 20 lodgings). While a linear relation was expected between the number of tourist attractions and the presence of lodgings, this simple linearity is evident only for the first 3 clusters for the communes with 2 to 19 tourist attractions, when expressed as a percentage from the total of communes for the respective clusters (the communes from this group represent 81% within the cluster with 0 lodgings, 89% within the clusters with 1 lodging, 90% within the cluster with 2-19 lodgings, but decreases to 80% within the cluster with at least 20 lodgings). This linear relation seems to exists, at some extent, only in case of communes with 20 or more tourist attractions: they represent 1% within the cluster with 0 lodgings; 3% within the clusters with 1 lodging and with 2-19 lodgings; and 20% within the cluster with at least 20 lodgings.

A negative linear relation exists for the other 2 groups; the number of communes with no tourist attractions and with just 1 tourist attraction is decreasing while the number of lodgings increases. Nonetheless, it is

interesting to mention that within the cluster 2-19 lodgings, 6 communes with no tourist attractions are found (Poiana Vadului – Alba county, Cazasu – Braila county, Hartop – Suceava county, Dumbravita – Timis county, all with 2 lodgings each; Beceni – Buzau county with 3 lodgings; Ghiroda – Timis county with 7 lodgings), and 17 communes with only one tourist attraction.

The negative linear relation is more evident when only the ranking is considered within the 4 clusters: the communes with 0 to 4 points represent 93% within the cluster with 0 lodgings, 75% within the cluster with 1 lodging, 54% within the cluster with 2-19 lodgings, and 20% within the cluster with 20 lodgings or more. The linear relation is also evident when the communes with 5 to 10 points are under scrutiny; they represent 7% within the cluster with 0 lodgings, 25% within the cluster with 1 lodging, 46% within the cluster with 2-19 lodgings, and 80% within the cluster with 20 lodgings or more.

Though, Annex 4 shows that the ranking of communes by groups and within the clusters do not follow a clear pattern.

Annex 5 is similar to Annex 4, though it includes only the 948 communes wich were considered for the 2012 ranking. The only linear pattern that could be found was between the 2008 ranking and the number of lodgings, the number of communes with a ranking of 5 or higher increases from 32% within the cluster of communes with 0 lodgings to 50% within the cluster of communes with 1 lodging, to 61% for the communes with 2 to 19 lodgings, and to 79% for the communes with at least 20 lodgings.

For the other distributions of data, no clear pattern emerged.

It is interesting to mention in Annex 5 the communes with no identified tourist potential, but with 2012 ranking. Their number is very small; there are 3 communes with no identified tourist potential and with no registered accommodations (Brusturoasa – Bacau county – with 17 points under 2012 ranking; Ilva Mare – Bistrita-Nasaud county – with 23.5 points under 2012 ranking; Lapusata – Valcea county – with 13 points under 2012 ranking), and 1 commune with no tourist potential, and with 2

lodgings (Cazasu – Braila county – 1 point under 2012 ranking). All these communes are considered to have 'high tourist potential' according to 2012 ranking. Though there are no details regarding how the 2012 ranking was established and by whom, this situation (combined with the fact that 35 communes with just one identified tourist attraction were included in this ranking, of which 20 have no registered lodgings) suggests that the ranking emerged based on the self-evaluations performed by the local authorities and took into consideration some intangible potential attractions that could not be quantified.

The results extracted above are in line with the recent findings of Davidescu et al. (2018).

IV. Research results

Multiple regression results

Annex 6 presents the descriptive statistics for 3 groups of communes: all the 2,861, the 1,913 without 2012 ranking, and the 948 ranked in 2012. The data in Annex 6 concord with the data in Annexes 1 to 5. The data show the lower level of tourist potential for the 1,913 communes (e.g. the maximum number of points under 2008 rank is 7 for these communes) and a higher level for the 948 communes ranked in 2012 (which have an average number of points of about 4.7 under 2008 rank, register a higher number of historic monument, protected areas and have, on average, more than 2 lodgings per commune). Of course, some exceptions exist in both cases and they were mentioned within the previous pages.

Annex 7 comprises the correlation coefficients between the selected variables for the 3 groups of communes.

For all the communes, the correlations are significant but weak or very weak. A weak correlation exists between 2008 rank and the following other variables: lodgings, monuments and protected areas, while the

relation with the extra-resources is even weaker. Except for the weak relationship of lodgings with 2008 rank, this variable have weaker relationships with the protected areas and extra-resources, and almost 0 correlation with the historic monuments. The relationships between historic monuments, protected areas, and extra-resources are expected to be very weak since these variables should have no real connections with each others (see Annex 7A).

For the 1,913 communes with no 2012 ranking, the correlations are all lower than 0.2 and could be considered very weak or non-existent. In the case of these communes, the extra-resources seem to be completely unimportant for 2008 rank and in the case of lodgings (see Annex 7A).

In the case of the 948 communes ranked in 2012, the only moderately-strong correlation exists between 2008 rank and 2012 rank. The majority of the remaining correlations are weak and very weak, while the correlation is not significant between the historic monuments and lodgings and also between the historic monuments and protected areas (see Annex 7B).

Annex 8 presents the results of the stepwise multiple regression. As already suggested by the results of correlation coefficients from Annex 7, for all the communes, the 2008 ranking is influenced by all three independent variables, though explain 18.8% of this dependent variable; the lowest influence seems to be exerted by extra-resources. When lodgings are taken into consideration as dependent variable, the model, though significant, explains only 7.3% of its evolution. The 2008 ranking is the most influent of the independent variables, while historic monument having no significant influence (see Annex 8A).

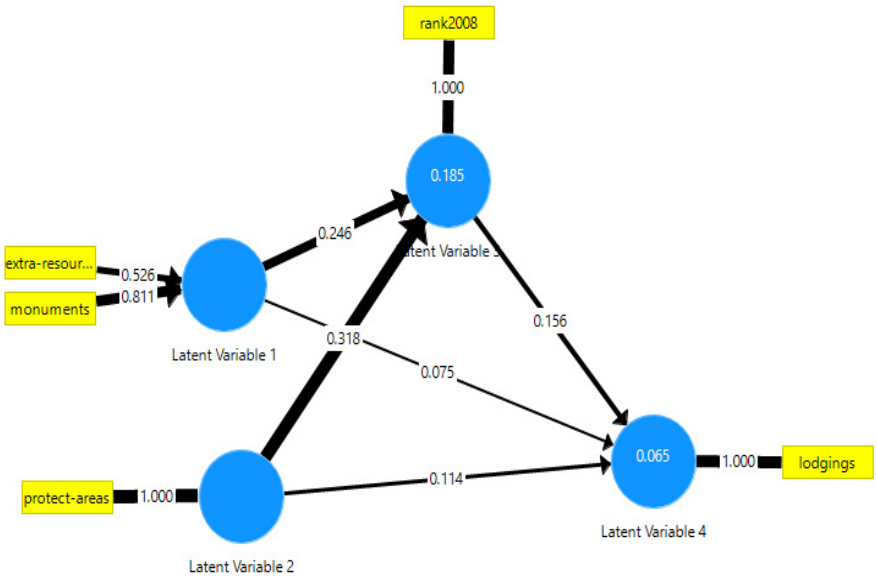
In the case of the 1,913 communes with no 2012 ranking, the model, although significant, explains only 5.4% of the dependent variable 2008 rank, extra-resources being insignificant. In the case of lodgings, the model, also significant, explains only 3.3% of the dependent variable; 2008 rank has the highest influence, while extra-resources and historic monuments have no significant influence (see Annex 8A).

For the 948 communes with 2012 ranking (see Annex 8B), the dependent variable 2008 rank is explained by the model only 7.3%, with historic monuments having the lowest influence. The model explains 11.5% of the dependent variable 2012 rank, the independent variables (historic monuments, protected areas, and extra-resources) having a balanced influence. Though, when 2008 rank is added as to the model, the explanatory power of the model increases at almost 37% and 2008 being the most influential. In the case of lodgings, the explanatory power of the model with 4 independent variables is low, of 6.4%, while the historic monuments have no influence. When 2012 rank is added as an independent variable, the explanatory power of the model increases slightly to 8%, while historic monuments and 2008 rank have no significant influence on the lodgings.

PLS-SEM results

Figure 1 presents the PLS-SEM results for all the 2,861 communes. The details regarding the PLS-SEM calculations are presented in Annex 9.

As Figure 1 shows, the results are similar to those generated by the multiple regression (Annex 8A). The existing resources influence 2008 rank up to 18.5%, while the combined influence on lodgings is low, of 6.5%. The strongest influence on the 2008 rank comes from the protected areas, while rank 2008 has the strongest influence on lodgings, therefore showing that the natural and anthropic resources have rather an indirect influence. This finding suggests that rather the official communications (e.g. 2008 rank) have some influence on local population decision to offer tourist lodgings than the cognizance regarding the presence and the value of local natural and anthropic resources.

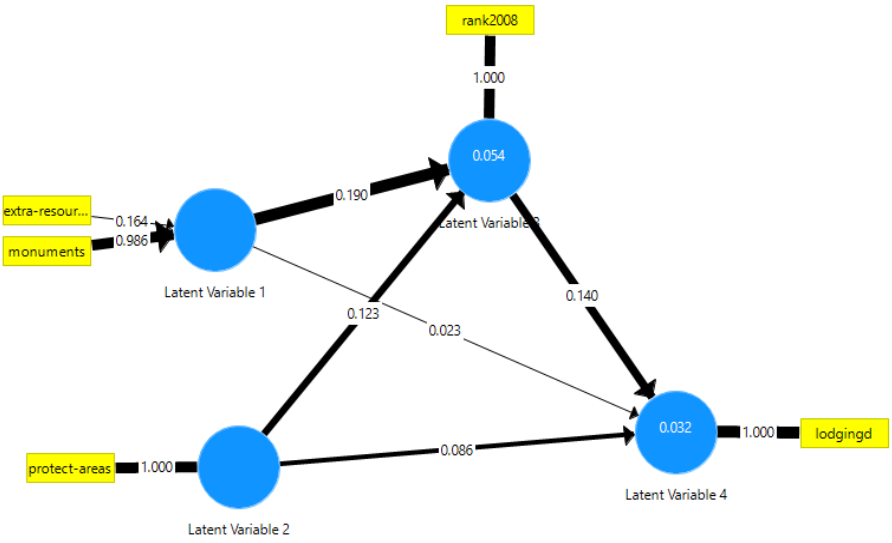


Source: authors' calculations

Figure 1: PLS-SEM results for 2,861 communes

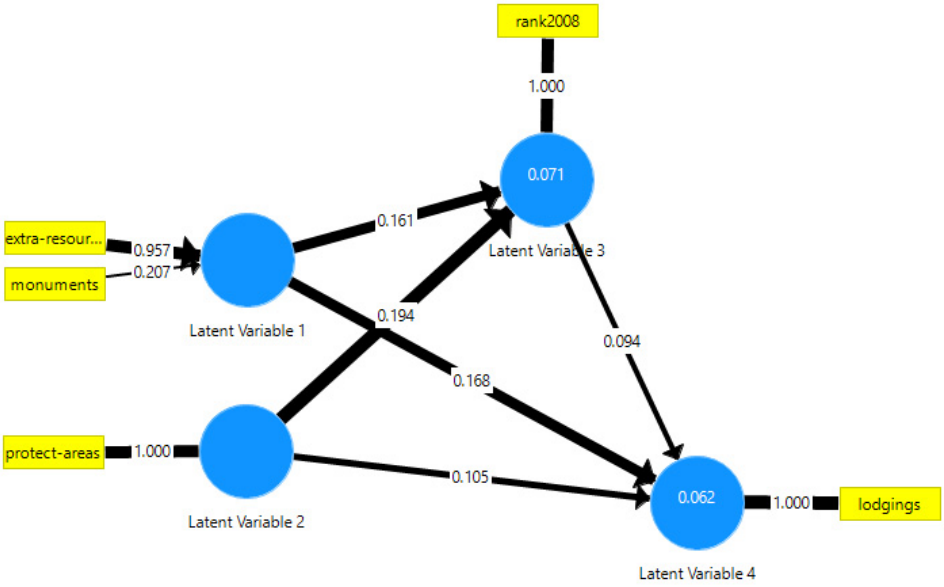
Figure 2 presents the PLS-SEM results for the 1,913 communes without 2012 rank. The details regarding the PLS-SEM calculations for these 1,913 communes are presented in Annex 10. These results are also similar with the multiple regression results (Annex 8A). The existing resources influence 2008 rank up to 5.4%, while the combined influence on lodgings is very low, of 3.2%. The difference that occurs in comparisons with Figure 1 is represented by the fact that, for this group of communes, the 2008 rank is rather more strongly influenced by the anthropic resources (mainly the historic monuments). This situation is in concordance with the lowest number of protected areas allocated to these communes, as Annex 6A shows. The findings for the 1,913 communes are similar to those for all the 2,861 communes.

Figure 3 presents the PLS-SEM results for the 948 communes with 2012 rank (the 2012 rank not included). The details regarding the PLS-SEM calculations for these 948 communes are presented in Annex 11. Similar to the previous results, Figure 3 results are them too similar to the multiple regression results (Annex 8B, the sections for 2008 rank and lodgings A). The existing resources influence 2008 rank up to 7.1%, while the combined influence on lodgings is low, of 6.2%. Though, the inner model in Figure 3 shows a different situation compared with Figures 1 and 2. For this group of 948 communes, the influence of the existing tourist resources is stronger than the influence of the 2008 rank, the anthropic resources having the most substantial influence. However, the 2008 rank is rather under the influence of protected areas. The findings suggest that within this group of communes the level of awareness regarding the existence and the value of the natural and anthropic resources is higher and that the local population uses this information when offering tourist accommodations. The confirmation given by the 2008 rank regarding the presence of these resources seems to be of secondary importance.



Source: authors' calculations

Figure 2: PLS-SEM results for 1,913 communes (without 2012 rank)

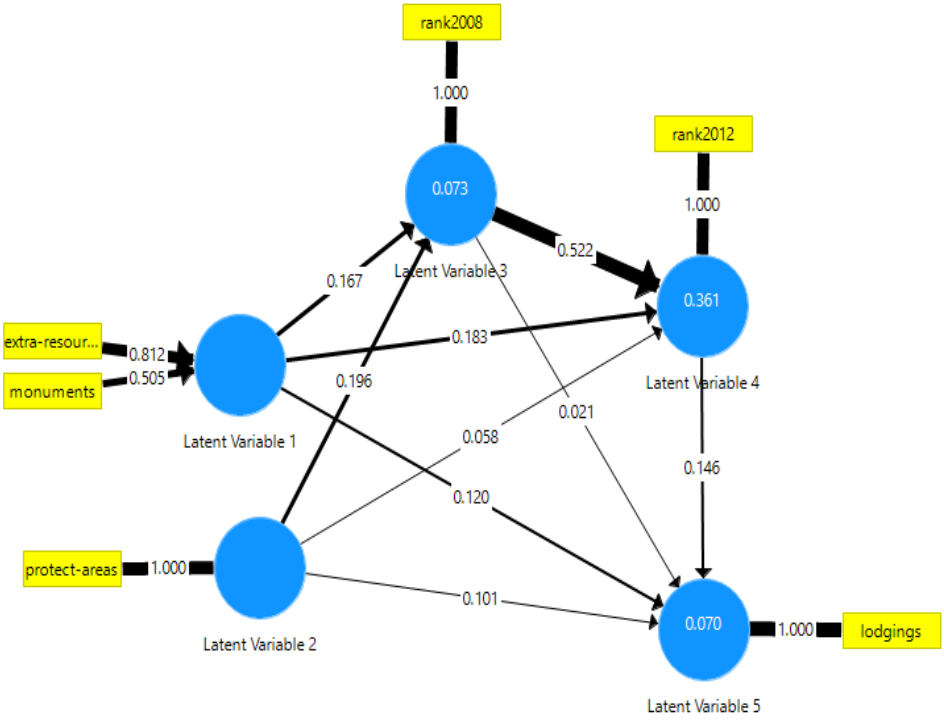


Source: authors' calculations

Figure 3: PLS-SEM results for 948 communes with 2012 rank (2012 rank not included)

Figure 4 presents the PLS-SEM results for the 948 communes with 2012 rank (the 2012 rank included). The details regarding the PLS-SEM calculations for these 948 communes are presented in Annex 12. Similar to the previous results, Figure 3 results are them too similar to the multiple regression results (Annex 8B, the sections for 2012 rank B and lodgings B). The existing resources influence 2012 rank up to 36.1%, while the combined influence on lodgings is low, of 7.0%. The inner model shows, however, that the influence on lodgings of the anthropic resources, natural resources, and 2012 rank are similar. Nonetheless, the strongest influence on the 2012 rank comes from 2008 rank, which indicated that the 2012 ranking process was based on the previous assessments. Given the similar influence of anthropic resources, natural resources, and 2012 rank, the results from Figure 4 can be considered in line with those in

Figure 3. While the presence of 2012 rank seems to be important, there is a higher level of awareness within this group of communes regarding the existence and the value of the natural and anthropic resources and the decison of local population to offer accommodations for tourists is based on this awareness.



Source: authors' calculations

Figure 4: PLS-SEM results for 948 communes with 2012 rank (2012 rank included)

V. Discussions

As Table 1 shows, all the hypotheses formulated were confirmed with a high level of confidence.

The results suggest that those who established the ranks for 2008 and 2012 took into consideration the identified tourist resources. Nonetheless, the 2012 rank was mainly based on the information provided by the 2008 ranking. However, when the tourist accommodation is concerned, the influences are weak and they suggest a low to very low level of awareness regarding the existence and the value of the identified natural and anthropic tourist attractions within the local communities.

Table 1: Hypotheses confirmation/infirmation

Hypotheses	Multiple regression results	PLS-SEM results
H1 (for all communes): 2008 rank is influenced by the tourist resources	Confirmed. R^2 = 18.8%; p-value < 0.001	Confirmed R^2 = 18.5%; p-value = 0.0000
H1.1 (for the 1,913 communes): 2008 rank is influenced by the tourist resources	Confirmed. R^2 = 5.4%; p-value < 0.001	Confirmed R^2 = 5.4%; p-value = 0.0000
H1.2 (for the 948 communes): 2008 rank is influenced by the tourist resources	Confirmed. R^2 = 7.3%; p-value < 0.001	Confirmed R^2 = 7.1%; p-value = 0.0000
H2 (for the 948 communes): 2012 rank is influenced by the tourist resources	Confirmed. R^2 = 11.5%; p-value < 0.001	Not investigated.
H2a (for the 948 communes): 2012 rank is influenced by the tourist resources and the 2008 rank	Confirmed. R^2 = 36.8%; p-value < 0.001	Confirmed R^2 = 36.1%; p-value = 0.0000
H3 (for all communes): lodgings are influenced by the tourist resources and the 2008 rank	Confirmed. R^2 = 7.3%; p-value < 0.001	Confirmed R^2 = 6.5%; p-value = 0.0000
H3.1 (for the 1,913 communes): lodgings are influenced by the tourist resources and the 2008 rank	Confirmed. R^2 = 3.3%; p-value < 0.001	Confirmed R^2 = 3.2%; p-value = 0.0000
H3.2 (for the 948 communes): lodgings are influenced by the tourist resources and the 2008 rank	Confirmed. R^2 = 6.4%; p-value < 0.001	Confirmed R^2 = 6.2%; p-value = 0.0000
H3.2a (for the 948 communes): lodgings are influenced by the tourist resources and the 2008 rank and the 2012 rank	Confirmed. R^2 = 8.0%; p-value < 0.001	Confirmed R^2 = 7.0%; p-value = 0.0000

Source: authors' calculations

Also the rankings of 2008 and 2012 have a relatively low direct influence on lodgings, as Figures 1 to 4 show. All these results suggest that a range of other factors should be added in order to understand the presence of lodgings in rural settlements.

VI. Conclusions

With overall growth of 95.46% of the number of communes reporting lodgings between 2005 and 2019, the developing of accommodation supply within rural areas has an upward trend. Though, about 65% of the communes report no lodgings, about 22% report only one lodging facility, while only a negligible number of 20 communes host 20 lodgings or more. The high number of communes with no lodgings and with just one lodging explain the weak relation between the tourist attractions and the accommodation offered in rural areas. Even within the cluster of 948 communes with 2012 rankings, the number of communes with 0 lodgings represent 39%, while the number of communes with just 1 lodging represent 33%. Therefore, the influence of tourist attractions on the accommodation offer remains weak.

he findings indirectly reveal that the awareness of the local population regarding the existence and the value of the identified natural and anthropic tourist attractions is low or very low. This result is in line with the previous findings of Pop & Georgescu (2019), Pop & Balint (2020, in press), and Iatu et al. (2018), however, these papers refer mainly to the presence of World Heritage Sites (WHSs).

Also the findings point toward the idea that the development of accommodation facilities in rural areas is based mainly on individual decisions and the respective offer creates rather a complementary service to other economic activities. This idea was already demonstrated by Pop & Georgescu (2019) for the rural localities hosting WHSs.

The results of this study point into two directions: a) to extend the range of factors taken into consideration (e.g. population, population structure and education, the accessibility of the respective localities); b) to focus the study only on the rural localities that host a lodging.

The limitations of the present study come from not taking into consideration the intangible heritage, an element difficult to quantify. Also, the number of lodgings reported by NIS can be undervalued. A future study will take into consideration the larger database offered by the Ministry of Tourism/National Authority for Tourism.

Nonetheless, the future development of Romanian rural tourism should consider the recommended community-based tourism as suggested by (Figueiredo et al., 2013). Furthermore, within the rural communities the level of awareness regarding the value of the existing resources should increase and should be combined with sustainable strategies for economic development. Additionally, as suggested by Avram (2020, in press), the development of tourist activities should include the tourists' profiles in correlation with the available resources, leading to segmentation of rural tourist offer as suggested by Coros (2020, in press) and Nistoreanu (2018).

REFERENCES

Aref, F., Gill, S.S. (2009). Rural Tourism Development Through Rural Cooperatives, Nature and Science 7(10), 68-73

Avram, D. (2020, in press). Changes in rural tourism: What's new?. in New trends and oppotunities for Central and Eastern Europe Tourism (Nistoreanu, P., ed), IGI-Global, USA, 191-206

Banski, J. & Bednarek-Szczepanska, M. (2013). The influence of differentiation of the landscape capital on the offer of the agro-tourist facilities in Poland, in ORTE 2013: International Conference on Rural Tourism – Re-inventing rural tourism and rural tourism experience, Proceedings, ISBN: 978-989-20-4016-5, 235-250

Calina, A., Calina, J. & Tiberiu, I.(2017). Research regarding the implementation, development and impact of agritourism on Romania's rural areas between 1990 and 2015. Environmental Engineering Management Journal, 16, 157–168

Coros, M.M. (2020, in press). Rural tourism and its dimension: a case of Transylvania, Romania. in New trends and oppotunities for Central and Eastern Europe Tourism (Nistoreanu, P., ed), IGI-Global, USA, 246-272

Davidescu, A.A.M., Strat, V.A., Grosu, R.M., Zgură, I.D. & Anagnoste, S. (2018). The Regional Development of the Romanian Rural Tourism Sector. Amfiteatru Economic, 20 (Special No. 12), 854-869

Figueiredo, E., Kastenholz, E., & Pinho, C. (2013). Living in a rural tourism destination – explaining the view of local communities, in ORTE 2013: International Conference on Rural Tourism – Re-inventing rural tourism and rural tourism experience, Proceedings, ISBN: 978-989-20-4016-5, 139-154

Gavrila-Paven, I. (2015). Tourism opportunities for valorizing the authentic traditional rural space-study case: Ampoi and Mures Valleys microregion, Alba County, Romania. Procedia: Social and Behavioral Sciences, 188, 111–115

Hall, D. (2004), Rural Tourism Development in Southeastern Europe: Transition and the Search for Sustainability, International Journal of Tourism Research, 6, 165-176

Iatu, C., Ibanescu, B.C., Stoleriu, O.M., & Munteanu, A. (2018). The WHS designation – a factor of sustainable tourism growth for Romanian rural areas?. Sustainability, 10(3), 626

Iorio, M., Corsale, A. (2013), Community-based Tourism and Networking: Viscri, Romania, Journal of Sustainable Tourism, 22(2), 234-255

Lane, B., Kastenholz, E. (2015), Rural tourism: the evolution of practice and research approaches – toward a new generation concept?, Journal of Sustainable Tourism, 23(8-9), 1133-1156

Nistoreanu, P. (2018). Romania. In E. M. Dobrescu & P. Nistoreanu (Eds.), Turismul rural european. Sitech, Craiova, 516-544

Panyik, E., Costa, C., & Ratz, T. (2011), Implementing integrated rural tourism: An event-based approach. Tourism Management, 32(6), 1352-1363

Pop, C. & Balint, C. (2020, in press). Romanian newly-nominated WHS and current tourism development in the associated rural localities, in New trends and oppotunities for Central and Eastern Europe Tourism (Nistoreanu, P., ed), IGI-Global, USA, 223-245

Pop, C. & Georgescu, M-A. (2019). Romanian rural World Heritage Sites and tourism development, Entrepreneurial Business and Economic Review (EBER), 7(1), 135-158

Reyes, V. (2014). The production of cultural and natural wealth: An examination of World Heritage Sites. Poetics, 44, 42-63

Tao, T.C.H., Wall, G. (2009), Tourism as a sustainable livelihood strategy, Tourism Management, 30(1), 90-98

Tudorache, D., Musteata-Pavel, M., Simon,T.& Rădulescu, A. (2017). Tourism market development trends of Brasov county. Knowledge Horizons - Economics, 8(3), 27-32

Annex 1: The situation of communes with tourist potential

County/region/ macro-region	Number of communes	Number of communes with protected areas	Number of communes with historic monuments	Number of communes with vineyards/wine centres	Number of commune with mineral waters/balneary potential	Number of communes with (natural or cultural) WHS	Number of communes with status of resort	Number of communes with no identified tourist potential	Number of communes with no 2008 ranking (of which resorts)	Number of communes with no 2012 ranking	Number of communes with no 2008 ranking and 2012 ranking
Bihor	91	71	74	10	7	0	3	5	4 (3)	65	1
Bistrita-Nasaud	58	40	47	24	1	0	2	4	0	21	0
Cluj	75	55	72	20	1	0	2	0	1 (1)	48	0
Maramures	63	51	53	7	7	10	5	1	1 (1)	9	0
Satu-Mare	59	34	52	21	9	0	0	4	1	49	1
Salaj	57	23	50	19	4	0	1	2	0	26	0
North-West	**403**	**274**	**348**	**101**	**29**	**10**	**13**	**16**	**7 (5)**	**218**	**2**
Alba	67	56	59	35	0	2	2	1	2 (2)	22	0
Brasov	48	41	45	0	6	4	3	0	2 (2)	15	0
Covasna	40	36	38	0	8	0	1	0	1 (1)	13	0
Harghita	58	51	52	0	11	1	2	1	2 (2)	22	1
Mures	91	74	79	33	5	1	1	0	0	32	0
Sibiu	53	46	50	23	1	2	2	0	1 (1)	18	0
Center	**357**	**304**	**323**	**91**	**31**	**10**	**11**	**2**	**8 (8)**	**122**	**1**
Macro-1	***760***	***578***	***671***	***192***	***60***	***20***	***24***	***18***	***15 (13)***	***340***	***3***
Bacau	85	45	69	25	1	0	0	7	0	71	0
Botosani	71	43	61	4	0	0	0	7	0	63	0
Iasi	93	71	83	56	2	0	0	2	0	79	0
Neamt	78	55	62	1	5	0	2	6	2 (2)	35	0
Suceava	98	71	65	0	9	7	6	5	1	57	1
Vaslui	81	44	61	67	1	0	0	2	0	71	0
North-East	**506**	**329**	**401**	**153**	**18**	**7**	**8**	**29**	**3 (2)**	**376**	**1**
Braila	40	31	21	14	3	0	1	5	1 (1)	26	1
Buzau	82	52	68	18	3	0	1	5	1 (1)	66	0
Constanta	58	46	52	30	2	4	1	2	1 (1)	33	0
Galati	61	34	39	58	0	0	0	0	1	46	1
Tulcea	46	45	34	22	0	14	0	0	0	24	0
Vrancea	68	45	54	28	2	0	1	5	0	49	0

County/region/ macro-region	Number of communes	Number of communes with protected areas	Number of communes with historic monuments	Number of communes with vineyards/wine centres	Number of commune with mineral waters/balneary potential	Number of communes with (natural or cultural) WHS	Number of communes with status of resort	Number of communes with no identified tourist potential	Number of communes with no 2008 ranking (of which resorts)	Number of communes with no 2012 ranking	Number of communes with no 2008 ranking and 2012 ranking
South-East	**355**	**253**	**268**	**170**	**10**	**18**	**4**	**17**	**4 (3)**	**244**	**2**
Macro-2	***861***	***582***	***669***	***323***	***28***	***25***	***12***	***46***	***7 (5)***	***620***	***3***
Arges	95	52	86	18	3	0	3	3	1 (1)	45	0
Calarasi	50	25	37	14	0	0	0	5	0	49	0
Dambovita	82	21	77	5	2	0	1	5	0	63	0
Giurgiu	51	29	49	9	0	0	0	1	0	47	0
Ialomita	59	48	40	1	0	0	0	9	1	55	1
Prahova	90	30	74	17	2	0	1	12	1 (1)	72	0
Teleorman	92	57	76	9	0	0	0	6	0	90	0
South-Muntenia	**519**	**262**	**439**	**73**	**7**	**0**	**5**	**41**	**3 (2)**	**421**	**1**
Ilfov	32	10	31	0	0	0	1	1	1 (1)	27	0
Macro-3	***551***	***272***	***470***	***73***	***7***	***0***	***6***	***42***	***4 (3)***	***448***	***1***
Arad	68	55	45	11	3	0	1	3	1 (1)	54	0
Caras-Severin	69	53	58	6	0	17	3	6	2 (2)	38	0
Hunedoara	55	46	45	0	4	4	1	2	1 (1)	17	0
Timis	89	56	63	4	6	0	1	12	5 (1)	80	5
West	**281**	**210**	**211**	**21**	**13**	**21**	**6**	**23**	**9 (5)**	**189**	**5**
Dolj	104	60	99	64	0	0	0	1	0	93	0
Gorj	61	34	60	9	3	1	3	0	1 (1)	31	0
Mehedinti	61	45	56	39	4	4	0	0	0	44	0
Olt	104	63	90	13	1	0	0	8	1	99	1
Valcea	78	36	76	25	4	7	1	1	1 (1)	49	0
South-West	**408**	**238**	**381**	**150**	**12**	**12**	**4**	**10**	**3 (2)**	**316**	**1**
Macro-4	***689***	***448***	***592***	***171***	***25***	***33***	***10***	***33***	***12 (7)***	***505***	***6***
National level	2,861	1,880	2,343	759	120	78	52	139	38 (28)	1,913	13*

Note *: of these 13 communes, 3 have the status of resort of local interest: Chiscani (Lacul Sarat) – Braila county; Voslabeni (Izvorul Muresului) – Harghita county, and Ortisoara (Baile Calacea) – Timis county.

Annex 2: The situation of communes 2008 rank and average number of lodgings for 2005-2019

County/region/ macro-region	Number of communes	Minimum/maximum 2008 rank	Average 2008 rank	The most frequent 2008 rank (and percentage)	Communes with 0 lodgings	Communes with 1 lodging	Communes with 2-19 lodgings	Comunes with 20 lodgings or more	Comments
Bihor	91	0/7	3.20	2 (35.16%)	55	22	13	1	Sanmartin (Baile Felix & 1 Mai; resorts): 66 lodgings
Bistrita-Nasaud	58	1/8	4.47	4 (25.86%)	32	21	5	0	
Cluj	75	1/6	3.52	4 (40.00%)	31	23	21	0	
Maramu-res	63	1/10	4.90	4 (25.40%)	28	15	20	0	
Satu-Mare	59	0/6	2.49	2 (37.29%)	41	16	2	0	
Salaj	57	1/7	3.42	4 (31.58%)	33	19	4	1	Boghis (resort): 30 lodgings
North-West	**403**	**0/10**	**3.67**	**4 (25.56%)**	**220**	**116**	**65**	**2**	
Alba	67	1/10	4.72	4 (22.39%)	31	23	13	0	
Brasov	48	2/8	4.25	4 (43.75%)	13	16	17	2	Bran (resort): 102 lodgings; Moieciu (resort): 111
Covasna	40	1/8	4.20	4 (30.00%)	18	10	12	0	
Harghita	58	1/8	4.00	4 (32.76%)	10	22	23	3	Praid (resort): 49 lodgings; Voslabeni (Izvo-rul Muresului, resort): 23 lodgings; Zetea: 30 lodgings
Mures	91	1/8	3.48	4 (48.35%)	50	29	12	0	
Sibiu	53	2/9	4.57	4 (39.62%)	21	18	14	0	

County/region/ macro-region	Number of communes	Minimum/maximum 2008 rank	Average 2008 rank	The most frequent 2008 rank (and percentage)	Communes with 0 lodgings	Communes with 1 lodging	Communes with 2-19 lodgings	Comunes with 20 lodgings or more	Comments
Center	**357**	**1/10**	**4.20**	**4 (36.97%)**	**143**	**118**	**91**	**5**	
Macro-1	***760***	***0/10***	***3.94***	***4 (30.97%)***	***363***	***234***	***156***	***7***	
Bacau	85	1/6	2.08	2 (54.12%)	60	19	6	0	
Botosani	71	1/6	2.42	2 (56.34%)	69	1	1	0	
Iasi	93	1/6	2.23	2 (37.63%)	69	16	8	0	
Neamt	78	1/9	3.77	4 (30.77%)	39	19	18	2	Alexandru cel Bun: 20 lodgings; Ceahlau (Durau, resort): 41 lodgings
Suceava	98	0/9	3.48	2 (28.57%)	43	28	25	2	Sucevita (resort): 26 lodgings Vama: 20 lodgings
Vaslui	81	1/6	2.25	2 (48.15%)	70	10	1	0	
North-East	**506**	**0/9**	**2.71**	**2 (41.70%)**	**350**	**93**	**59**	**4**	
Braila	40	1/6	2.08	1 (52.50%)	33	5	2	0	
Buzau	82	1/7	2.72	1 (34.15%)	54	16	11	1	Merei (Sarata Monteoru, resort): 22 lodgings
Constanta	58	1/8	3.36	3 (22.41%)	43	11	3	1	Costinesti (resort): 173 lodgings
Galati	61	0/7	2.79	3 (31.15%)	54	7	0	0	
Tulcea	46	1/8	3.87	4 (28.26%)	27	9	7	3	Somova: 23 lodgings; Jurilovca: 24 lodgings; Murighiol: 39 lodgings
Vrancea	68	1/6	2.90	2 (38.24%)	48	15	4	1	Tulnici: 20 lodgings

County/region/ macro-region	Number of communes	Minimum/maximum 2008 rank	Average 2008 rank	The most frequent 2008 rank (and percentage)	Communes with 0 lodgings	Communes with 1 lodging	Communes with 2-19 lodgings	Comunes with 20 lodgings or more	Comments
South-East	**355**	**0/8**	**2.95**	**2 (23.65%)**	**259**	**63**	**27**	**6**	
Macro-2	***861***	***0/9***	***2.83***	***2 (34.26%)***	***609***	***156***	***86***	***10***	
Arges	95	1/6	3.56	4 (36.84%)	47	26	21	1	Rucar: 25 lodgings
Calarasi	50	1/5	1.60	1 (70.00%)	44	5	1	0	
Dambovita	82	1/7	3.02	2 (35.37%)	59	19	4	0	
Giurgiu	51	1/6	2.18	1 (37.25%)	43	8	0	0	
Ialomita	59	0/5	1.92	1 (50.85%)	55	4	0	0	
Prahova	90	1/6	2.88	2 (40.00%)	64	18	7	1	Maneciu (Cheia, resort): 20 lodgings
Teleorman	92	1/5	1.88	1 (42.39%)	84	8	0	0	
South-Muntenia	**519**	**0/7**	**2.43**	**2 (27.75%)**	**396**	**88**	**33**	**2**	
Ilfov	32	1/7	2.63	2 (43.75%)	20	9	3	0	
Macro-3	***551***	***0/7***	***2.53***	***2 (28.68%)***	***416***	***97***	***36***	***2***	
Arad	68	1/7	3.13	4 (25.00%)	39	20	9	0	
Caras-Severin	69	2/8	3.75	2 (27.54%)	35	22	12	0	
Hunedoara	55	2/10	4.58	4 (36.36%)	21	25	9	0	
Timis	89	0/6	2.21	2 (37.08%)	61	21	7	0	
West	**281**	**0/10**	**3.42**	**2 (26.33%)**	**156**	**88**	**37**	**0**	
Dolj	104	1/6	2.11	2 (49.04%)	91	11	2	0	
Gorj	61	1/9	3.59	2 (42.62%)	39	13	9	0	
Mehedinti	61	1/9	2.95	2 (49.18%)	45	12	4	0	
Olt	104	0/7	2.05	2 (45.19%)	96	8	0	0	
Valcea	78	1/7	2.82	2 (52.56%)	54	18	5	1	Voineasa (resort): 34 lodgings
South-West	**408**	**0/9**	**2.70**	**2 (47.79%)**	**325**	**62**	**20**	**1**	
Macro-4	***689***	***0/10***	***3.06***	***2 (39.04%)***	***481***	***150***	***57***	***1***	
National level	2,861	0/10	3.09	2 (30.93%)	1,869	637	335	20	

Annex 3: The evolution of communes with registered accommodation facilities between 2005 and 2019

County/region/ macro-region	Number of communes	Communes with lodgings in 2005	Communes with lodgings in 2010	Communes with lodgings in 2015	Communes with lodgings in 2019	Increase/decrease in communes with lodgings (%)
Bihor	91	18	19	27	30	66.67
Bistrita-Nasaud	58	5	6	11	24	380.00
Cluj	75	27	33	32	40	48.15
Maramures	63	19	26	27	34	78.95
Satu-Mare	59	8	8	9	15	87.50
Salaj	57	5	10	14	20	300.00
North-West	**403**	**82**	**102**	**120**	**163**	**98.78**
Alba	67	8	18	28	32	300.00
Brasov	48	19	19	27	32	68.42
Covasna	40	11	15	21	21	90.91
Harghita	58	36	31	34	40	11.11
Mures	91	16	16	30	35	118.75
Sibiu	53	12	18	22	26	116.67
Center	**357**	**102**	**117**	**162**	**186**	**82.35**
Macro-1	***760***	***184***	***219***	***282***	***349***	***89.67***
Bacau	85	11	9	20	22	100.00
Botosani	71	2	2	2	2	0.00
Iasi	93	14	13	16	18	28.57
Neamt	78	17	28	29	35	105.88
Suceava	98	25	31	36	51	104.00
Vaslui	81	1	5	8	10	900.00
North-East	**506**	**70**	**88**	**111**	**138**	**97.14**
Braila	40	3	3	6	6	100.00
Buzau	82	14	21	22	25	78.57
Constanta	58	8	9	8	12	50.00
Galati	61	1	1	1	6	500.00
Tulcea	46	9	8	13	17	88.89
Vrancea	68	14	11	6	15	7.14
South-East	**355**	**49**	**53**	**56**	**81**	**65.31**
Macro-2	***861***	***119***	***141***	***167***	***219***	***84.03***
Arges	95	23	28	40	45	95.65
Calarasi	50	2	4	4	5	150.00
Dambovita	82	8	16	17	21	162.50
Giurgiu	51	3	3	2	5	66.67

County/region/ macro-region	Number of communes	Communes with lodgings in 2005	Communes with lodgings in 2010	Communes with lodgings in 2015	Communes with lodgings in 2019	Increase/decrease in communes with lodgings (%)
Ialomita	59	1	4	4	4	300.00
Prahova	90	13	13	16	22	69.23
Teleorman	92	3	1	3	5	66.67
South-Muntenia	**519**	**53**	**69**	**86**	**107**	**101.89**
Ilfov	32	10	10	7	6	-40.00
Macro-3	***551***	***63***	***79***	***93***	***113***	***79.37***
Arad	68	15	20	19	20	33.33
Caras-Severin	69	10	17	30	32	220.00
Hunedoara	55	14	14	17	29	107.14
Timis	89	9	12	19	23	155.56
West	**281**	**48**	**63**	**85**	**104**	**116.67**
Dolj	104	3	3	9	10	233.33
Gorj	61	7	9	11	22	214.29
Mehedinti	61	3	4	7	15	400.00
Olt	104	2	0	1	6	200.00
Valcea	78	12	13	19	27	100.00
South-West	**408**	**27**	**29**	**47**	**77**	**185.19**
Macro-4	***689***	***75***	***92***	***132***	***181***	***141.33***
National level	2,861	441	531	674	862	95.46

Source: based on NIS data as available via Tempo-online

Annex 4: The structure of the 2,861 communes based on the average lodgings, 2008 ranking, and potential tourist attractions

Communes with 0 lodgings					
2008 ranking points	**Number of commune with no tourist potential**	**Number of communes with 1 tourist attraction**	**Number of communes with 2-19 tourist attractions**	**Number of communes with 20 tourist attractions or more**	**Total**
0 points	1	3	4	0	**8**
1 point	48	62	260	0	**370**
2 points	47	102	547	2	**698**
3 points	12	29	276	4	**321**
4 points	2	28	297	6	**333**
5 points	1	3	67	0	**71**

6 points	1	2	43	2	**48**
7 points	0	2	11	1	**14**
8 points	0	0	1	1	**2**
9 points	0	0	4	0	**4**
10 points	0	0	0	0	**0**
Total	**112**	**231**	**1,510**	**16**	**1,869**

Communes with 1 lodging

2008 ranking points	**Number of commune with no tourist potential**	**Number of communes with 1 tourist attraction**	**Number of communes with 2-19 tourist attractions**	**Number of communes with 20 tourist attractions or more**	**Total**
0 points	1	0	1	0	**2**
1 point	4	6	50	0	**60**
2 points	11	13	125	1	**150**
3 points	5	7	90	1	**103**
4 points	0	3	154	8	**165**
5 points	0	2	68	3	**73**
6 points	0	0	53	3	**56**
7 points	0	0	18	0	**18**
8 points	0	0	5	1	**6**
9 points	0	0	2	0	**2**
10 points	0	0	2	0	**2**
Total	**21**	**31**	**568**	**17**	**637**

Communes with 2-19 lodgings

2008 ranking points	**Number of commune with no tourist potential**	**Number of communes with 1 tourist attraction**	**Number of communes with 2-19 tourist attractions**	**Number of communes with 20 tourist attractions or more**	**Total**
0 points	0	0	0	0	**0**
1 point	1	1	16	1	**19**
2 points	2	4	32	0	**38**
3 points	1	5	20	1	**27**
4 points	2	3	91	1	**97**
5 points	0	2	44	3	**49**
6 points	0	1	52	3	**56**
7 points	0	1	22	1	**24**
8 points	0	0	11	0	**11**
9 points	0	0	11	0	**11**
10 points	0	0	2	1	**3**
Total	**6**	**17**	**301**	**11**	**335**

Communes with 20 lodgings or more					
2008 ranking points	**Number of commune with no tourist potential**	**Number of communes with 1 tourist attraction**	**Number of communes with 2-19 tourist attractions**	**Number of communes with 20 tourist attractions or more**	**Total**
0 points	0	0	0	0	**0**
1 point	0	0	0	0	**0**
2 points	0	0	0	0	**0**
3 points	0	0	1	0	**1**
4 points	0	0	3	0	**3**
5 points	0	0	1	0	**1**
6 points	0	0	9	4	**13**
7 points	0	0	1	0	**1**
8 points	0	0	0	0	**0**
9 points	0	0	1	0	**1**
10 points	0	0	0	0	**0**
Total	**0**	**0**	**16**	**4**	**20**

Annex 5: The structure of 948 communes, with 2012 rank, based on the average lodgings, 2008 ranking, and potential tourist attractions

Communes with 0 lodgings					
2008 ranking points	**Number of commune with no tourist potential**	**Number of communes with 1 tourist attraction**	**Number of communes with 2-19 tourist attractions**	**Number of communes with 20 tourist attractions or more**	**Total**
0 points	0	0	0	0	**0**
1 point	0	0	10	0	**10**
2 points	1	3	26	0	**30**
3 points	1	0	20	0	**21**
4 points	0	12	177	3	**192**
5 points	1	3	58	0	**62**
6 points	0	1	37	2	**40**
7 points	0	1	8	1	**10**
8 points	0	0	1	1	**2**
9 points	0	0	4	0	**4**
10 points	0	0	0	0	**0**
Total	**3**	**20**	**341**	**7**	**371**
Average 2012 rank	***17.83***	***23.71***	***24.50***	***34.79***	***25.51***

Communes with 1 lodging					
2008 ranking points	**Number of commune with no tourist potential**	**Number of communes with 1 tourist attraction**	**Number of communes with 2-19 tourist attractions**	**Number of communes with 20 tourist attractions or more**	**Total**
0 points	0	0	0	0	**0**
1 point	0	1	5	0	**6**
2 points	0	1	15	1	**17**
3 points	0	0	11	0	**11**
4 points	0	2	115	6	**123**
5 points	0	2	67	3	**72**
6 points	0	0	51	3	**54**
7 points	0	0	18	0	**18**
8 points	0	0	5	1	**6**
9 points	0	0	2	0	**2**
10 points	0	0	2	0	**2**
Total	**0**	**6**	**291**	**14**	**311**
Average 2012 rank	***0***	***25.26***	***27.43***	***29.80***	***27.50***
Communes with 2-19 lodgings					
2008 ranking points	**Number of commune with no tourist potential**	**Number of communes with 1 tourist attraction**	**Number of communes with 2-19 tourist attractions**	**Number of communes with 20 tourist attractions or more**	**Total**
0 points	0	0	0	0	**0**
1 point	1	1	3	1	**6**
2 points	0	1	8	0	**9**
3 points	0	0	5	0	**5**
4 points	0	3	73	1	**77**
5 points	0	2	43	3	**48**
6 points	0	1	50	2	**53**
7 points	0	1	22	1	**24**
8 points	0	0	11	0	**11**
9 points	0	0	11	0	**11**
10 points	0	0	2	1	**3**
Total	**1**	**9**	**228**	**9**	**247**
Average 2012 rank	***1***	***22.55***	***30.85***	***33.03***	***21.86***

Communes with 20 lodgings or more					
2008 ranking points	**Number of commune with no tourist potential**	**Number of communes with 1 tourist attraction**	**Number of communes with 2-19 tourist attractions**	**Number of communes with 20 tourist attractions or more**	**Total**
0 points	0	0	0	0	**0**
1 point	0	0	0	0	**0**
2 points	0	0	0	0	**0**
3 points	0	0	1	0	**1**
4 points	0	0	3	0	**3**
5 points	0	0	1	0	**1**
6 points	0	0	8	4	**12**
7 points	0	0	1	0	**1**
8 points	0	0	0	0	**0**
9 points	0	0	1	0	**1**
10 points	0	0	0	0	**0**
Total	**0**	**0**	**15**	**4**	**19**
Average 2012 rank	***0***	***0***	***27.66***	***36.13***	***31.90***

Annex 6: Descriptive statistics

Annex 6A: Descriptive statistics for 2,861 communes and 1,913 communes without 2012 ranking

All 2,861 communes					
Descriptive statistics	**rank2008**	**lodgings**	**monuments**	**protect-areas**	**extra-resources**
Mean	3.055	1.025	3.437	1.456	0.353
Median	3.000	0.000	2.000	1.000	0.000
Mode	2.000	0.000	1.000	0.000	0.000
St.dev	1.670	5.236	3.895	1.773	0.527
Skewness	0.930	20.037	2.839	2.770	1.189
Kurtosis	0.852	537.202	13.698	16.088	0.816
Min	0.000	0.000	0.000	0.000	0.000
Max	10.000	173.000	46.000	21.000	3.000
25th percentile	2.000	0.000	1.000	0.000	0.000
50th percentile	3.000	0.000	2.000	1.000	0.000
75th percentile	4.000	1.000	5.000	2.000	1.000
Counts/valid	2,861	2,861	2,861	2,861	2,861

1,913 communes without 2012 ranking					
Descriptive statistics	**rank2008**	**lodgings**	**monuments**	**protect-areas**	**extra-resources**
Mean	2.251	0.317	2.751	1.033	0.315
Median	2.000	0.000	2.000	1.000	0.000
Mode	2.000	0.000	1.000	0.000	0.000
St.dev	1.019	0.909	3.176	1.198	0.477
Skewness	0.813	10.402	2.867	1.629	0.955
Kurtosis	1.169	212.560	13.298	4.034	-0.678
Min	0.000	0.000	0.000	0.000	0.000
Max	7.000	23.000	28.000	9.000	2.000
25th percentile	2.000	0.000	1.000	0.000	0.000
50th percentile	2.000	0.000	2.000	1.000	0.000
75th percentile	3.000	0.000	4.000	2.000	1.000
Count/valid	1,913	1,913	1,913	1,913	1,913

Source: authors' calculations

Annex 6B: Descriptive statistics for 948 communes with 2012 ranking

948 communes with 2012 ranking						
Descriptive statistics	**rank2008**	**lodgings**	**monuments**	**protect-areas**	**extra-resources**	**rank2012**
Mean	4.678	2.454	4.823	2.309	0.428	27.172
Median	4.000	1.000	4.000	2.000	0.000	26.500
Mode	4.000	0.000	2.000	1.000	0.000	21.500
St.dev	1.542	8.836	4.751	2.347	0.610	7.812
Skewness	0.432	12.103	2.496	2.331	1.126	0.457
Kurtosis	1.083	190.960	10.717	10.886	1.184	0.510
Min	1.000	0.000	0.000	0.000	0.000	1.000
Max	10.000	173.000	46.000	21.000	3.000	56.400
25th percentile	4.000	0.000	2.000	1.000	0.000	21.508
50th percentile	4.000	1.000	4.000	2.000	0.000	26.500
75th percentile	6.000	2.000	6.250	3.000	1.000	32.000
Count/valid	948	948	948	948	948	948

Source: authors' calculations

Annex 7: Correlation matrices

Annex 7A: Correlation matrices for 2,861 communes and 1,913 communes without 2012 ranking

All 2,861 communes					
	rank2008	**lodgings**	**monuments**	**protect-areas**	**extra-resources**
rank2008					
lodgings	0.219 (p<0.001)				
monuments	0.272 (p<0.001)	0.070 (p<0.001)			
protect-areas	0.355 (p<0.001)	0.180 (p<0.001)	0.106 (p<0.001)		
extra-resources	0.139 (p<0.001)	0.153 (p<0.001)	0.077 (p<0.001)	0.120 (p<0.001)	
1,913 communes without 2012 ranking					
	rank2008	**lodgings**	**monuments**	**protect-areas**	**extra-resources**
rank2008					
lodgings	0.156 (p<0.001)				
monuments	0.196 (p<0.001)	0.051 (p=0.026)			
protect-areas	0.134 (p<0.001)	0.106 (p<0.001)	0.051 (p=0.025)		
extra-resources	0.026 (p=0.265)	0.037 (p=0.102)	0.006 (p=0.805)	0.058 (p=0.011)	
948 communes with 2012 ranking					
	rank2008	**rank2012**	**lodgings**	**monuments**	**protect-areas**
rank2008					
rank2012	0.569 (p<0.001)				
lodgings	0.148 (p<0.001)	0.211 (p<0.001)			
monuments	0.095 (p=0.003)	0.228 (p<0.001)	0.025 (p=0.441)		
protect-areas	0.213 (p<0.001)	0.188 (p<0.001)	0.145 (p<0.001)	0.005 (p=0.889)	
extra-resources	0.171 p<0.001)	0.212 (p<0.001)	0.201 (p<0.001)	0.105 (p=0.001)	0.121 (p<0.001)

Source: authors' calculations

Annex 7B: Correlation matrix for 948 communes with 2012 ranking

948 communes with 2012 scores						
	rank2008	**rank2012**	**lodgings**	**monuments**	**protect-areas**	**extra-resources**
rank2008						
rank2012	0.569 (p<0.001)					
lodgings	0.148 (p<0.001)	0.211 (p<0.001)				
monuments	0.095 (p=0.003)	0.228 (p<0.001)	0.025 (p=0.441)			
protect-areas	0.213 (p<0.001)	0.188 (p<0.001)	0.145 (p<0.001)	0.005 (p=0.889)		
extra-resources	0.171 p<0.001)	0.212 (p<0.001)	0.201 (p<0.001)	0.105 (p=0.001)	0.121 (p<0.001)	

Source: authors' calculations

Annex 8: Regression results

Annex 8A: Regression results for 2,861 communes and 1,913 communes without 2012 ranking

All 2,861 communes					
Dependent variable & model results	**Independent variables**	**Estimate**	**T-statistic**	**p-value**	**VIF**
rank2008	b_0 (intercept)	2.182	48.192	< 0.001	-
	monuments	0.099	13.643	< 0.001	1.016
	protect-areas	0.302	18.795	< 0.001	1.024
	extra-resources	0.262	4.871	< 0.001	1.019
R^2 (%) = 18.8%; p-value < 0.001; F = 221.123					
lodgings	b_0 (intercept)	-1.433	7.015	< 0.001	-
	monuments	0.007	0.278	0.781	1.082
	protect-areas	0.319	5.593	< 0.001	1.151
	extra-resources	1.166	6.432	< 0.001	1.027
	rank2008	0.510	8.133	< 0.001	1.232
R^2 (%) = 7.3%; p-value < 0.001; F = 52.591					

1,913 communes without 2012 ranking					
Dependent variable & model results	**Independent variables**	**Estimate**	**T-statistic**	**p-value**	**VIF**
rank2008	b_0 (intercept)	1.963	57.798	< 0.001	-
	monuments	0.061	8.519	< 0.001	1.003
	protect-areas	0.105	5.543	< 0.001	1.006
	extra-resources	0.037	0.772	0.440	1.003
R^2 (%) = 5.4%; p-value < 0.001; F = 36.567					
lodgings	b_0 (intercept)	-0.064	-1.202	0.228	-
	monuments	0.005	0.820	0.412	1.041
	protect-areas	0.064	3.731	< 0.001	1.022
	extra-resources	0.055	1.274	0.203	1.004
	rank2008	0.125	6.070	< 0.001	1.057
R^2 (%) = 3.3%; p-value < 0.001; F = 16.300					

Source: authors' calculations

Annex 8B: Regression results for 948 communes with 2012 ranking

948 communes with 2012 ranking					
Dependent variable & model results	**Independent variables**	**Estimate**	**T-statistic**	**p-value**	**VIF**
rank2008	b_0 (intercept)	4.106	47.332	< 0.001	-
	monuments	0.026	2.520	0.012	1.011
	protect-areas	0.129	6.201	< 0.001	1.015
	extra-resources	0.352	4.386	< 0.001	1.026
R^2 (%) = 7.3%; p-value < 0.001; F = 24.816					
rank2012 A	b_0 (intercept)	23.306	54.274	< 0.001	-
	monuments	0.344	6.792	< 0.001	1.011
	protect-areas	0.553	5.388	< 0.001	1.015
	extra-resources	2.171	5.462	< 0.001	1.026
R^2 (%) = 11.5%; p-value < 0.001; F = 40.774					
rank2012 B	b_0 (intercept)	12.432	18.648	< 0.001	-
	monuments	0.276	6.419	< 0.001	1.018
	protect-areas	0.213	2.401	0.017	1.056
	extra-resources	1.238	3.648	< 0.001	1.047
	rank2008	2.648	19.446	< 0.001	1.079
R^2 (%) = 36.8%; p-value < 0.001; F = 137.335					

Dependent variable & model results	Independent variables	Estimate	T-statistic	p-value	VIF
lodgings A	b_0 (intercept)	-2.070	-2.255	0.024	-
	monuments	-0.005	-0.086	0.931	1.018
	protect-areas	0.389	3.188	0.001	1.056
	extra-resources	2.500	5.350	< 0.001	1.047
	rank2008	0.551	2.941	0.003	1.079
R^2 (%) = 6.4%; p-value < 0.001; F = 16.063					
lodgings B	b_0 (intercept)	-4.317	-4.053	< 0.001	-
	monuments	-0.055	0.917	0.359	1.063
	protect-areas	0.350	2.877	0.004	1.063
	extra-resources	2.276	4.877	< 0.001	1.062
	rank2008	0.073	0.331	0.741	1.511
	rank2012	0.181	4.065	< 0.001	1.583
R^2 (%) = 8.0%; p-value < 0.001; F = 16.366					

Source: authors' calculations

Annex 9: PLS-SEM results for the 2,861 communes
(Source: authors' calculations)

Annex 9A: Total effects

	Latent variable 1 (monuments & extra resources)	Latent variable 2 (protect-areas)	Latent variable 3 (rank2008)	Latent variable 4 (lodgings)
Latent variable 1 (monuments & extra resources)	-	-	0.246 (inner VIF: 1.023)	0.113 of which 0.039 indirect effect (inner VIF: 1.097)
Latent variable 2 (protect-areas)	-	-	0.318 (inner VIF: 1.023)	0.164 of which 0.050 indirect effect (inner VIF: 1.147)
Latent variable 3 (rank2008)	-	-	-	0.156 (inner VIF: 1.228)
Latent variable 4 (lodgings)	-	-	-	-

Annex 9B: Construct reliability and validity

	Cronbach's Alpha	**rho_A**	**Composite reliability**	**Average Variance Extracted (AVE)**
Latent variable 1 (monuments & extra resources)	-	1.000	-	-
Latent variable 2 (protect-areas)	1.000	1.000	1.000	1.000
Latent variable 3 (rank2008)	1.000	1.000	1.000	1.000
Latent variable 4 (lodgings)	1.000	1.000	1.000	1.000

Annex 9C: Discriminant validity: Fornell-Larker Criterion (and Heterotrait-Monotrait Ratio)

	Latent variable 1 (monuments & extra resources)	**Latent variable 2 (protect-areas)**	**Latent variable 3 (rank2008)**	**Latent variable 4 (lodgings)**
Latent variable 1 (monuments & extra resources)	-	-	-	-
Latent variable 2 (protect-areas)	0.149	1.000	-	-
Latent variable 3 (rank2008)	0.294	0.355 (0.355)	1.000	-
Latent variable 4 (lodgings)	0.137	0.180 (0.180)	0.219 (0.219)	1.000

Annex 9D: Total effects T-statistic and p-values

	T-statistic	**P-value**
Latent variable 1 → Latent variable 3	13.538	0.000
Latent variable 1 → Latent variable 4	4.693	0.000
Latent variable 2 → Latent variable 3	19.208	0.000
Latent variable 2 → Latent variable 4	4.185	0.000
Latent variable 3 → Latent variable 4	7.416	0.000

Annex 10: PLS-SEM results for the 1,913 communes
(Source: authors' calculations)

Annex 10A: Total effects

	Latent variable 1 (monuments & extra resources)	**Latent variable 2 (protect-areas)**	**Latent variable 3 (rank2008)**	**Latent variable 4 (lodgings)**
Latent variable 1 (monuments & extra resources)	-	-	0.190 (inner VIF: 1.004)	0.050 of which 0.027 indirect effect (inner VIF: 1.042)
Latent variable 2 (protect-areas)	-	-	0.123 (inner VIF: 1.004)	0.103 of which 0.017 indirect effect (inner VIF: 1.147)
Latent variable 3 (rank2008)	-	-	-	0.140 (inner VIF: 1.057)
Latent variable 4 (lodgings)	-	-	-	-

Annex 10B: Construct reliability and validity

	Cronbach's Alpha	**rho_A**	**Composite reliability**	**Average Variance Extracted (AVE)**
Latent variable 1 (monuments & extra resources)	-	1.000	-	-
Latent variable 2 (protect-areas)	1.000	1.000	1.000	1.000
Latent variable 3 (rank2008)	1.000	1.000	1.000	1.000
Latent variable 4 (lodgings)	1.000	1.000	1.000	1.000

Annex 10C: Discriminant validity: Fornell-Larker Criterion (and Heterotrait-Monotrait Ratio)

	Latent variable 1 (monuments & extra resources)	**Latent variable 2 (protect-areas)**	**Latent variable 3 (rank2008)**	**Latent variable 4 (lodgings)**
Latent variable 1 (monuments & extra resources)	-	-	-	-
Latent variable 2 (protect-areas)	0.060	1.000	-	-
Latent variable 3 (rank2008)	0.198	0.134 (0.134)	1.000	-
Latent variable 4 (lodgings)	0.056	0.106 (0.106)	0.156 (0.156)	1.000

Annex 10D: Total effects T-statistic and p-values

	T-statistic	**P-value**
Latent variable 1 → Latent variable 3	8.732	0.000
Latent variable 1 → Latent variable 4	1.896	0.059
Latent variable 2 → Latent variable 3	5.433	0.000
Latent variable 2 → Latent variable 4	4.189	0.000
Latent variable 3 → Latent variable 4	3.999	0.000

Annex 11: PLS-SEM results for the 948 communes without considering rank2012 (Source: authors' calculations)

Annex 11A: Total effects (and inner VIF)

	Latent variable 1 (monuments & extra resources)	**Latent variable 2 (protect-areas)**	**Latent variable 3 (rank2008)**	**Latent variable 4 (lodgings)**
Latent variable 1 (monuments & extra resources)	-	-	0.161 (inner VIF: 1.014)	0.183 of which 0.015 indirect effect (inner VIF: 1.042)
Latent variable 2 (protect-areas)	-	-	0.194 (inner VIF: 1.014)	0.123 of which 0.018 indirect effect (inner VIF: 1.054)

	Latent variable 1 (monuments & extra resources)	**Latent variable 2 (protect-areas)**	**Latent variable 3 (rank2008)**	**Latent variable 4 (lodgings)**
Latent variable 3 (rank2008)	-	-	-	0.094 (inner VIF: 1.076)
Latent variable 4 (lodgings)	-	-	-	-

Annex 11B: Construct reliability and validity

	Cronbach's Alpha	**rho_A**	**Composite reliability**	**Average Variance Extracted (AVE)**
Latent variable 1 (monuments & extra resources)	-	1.000	-	-
Latent variable 2 (protect-areas)	1.000	1.000	1.000	1.000
Latent variable 3 (rank2008)	1.000	1.000	1.000	1.000
Latent variable 4 (lodgings)	1.000	1.000	1.000	1.000

Annex 11C: Discriminant validity: Fornell-Larker Criterion (and Heterotrait-Monotrait Ratio)

	Latent variable 1 (monuments & extra resources)	**Latent variable 2 (protect-areas)**	**Latent variable 3 (rank2008)**	**Latent variable 4 (lodgings)**
Latent variable 1 (monuments & extra resources)	-	-	-	-
Latent variable 2 (protect-areas)	0.117	1.000	-	-
Latent variable 3 (rank2008)	0.184	0.213 (0.213)	1.000	-
Latent variable 4 (lodgings)	0.198	0.145 (0.145)	0.148 (0.148)	1.000

Annex 11D: Total effects T-statistic and p-values

	T-statistic	**P-value**
Latent variable 1 → Latent variable 3	4.669	0.000
Latent variable 1 → Latent variable 4	4.402	0.000
Latent variable 2 → Latent variable 3	6.627	0.000
Latent variable 2 → Latent variable 4	2.447	0.015
Latent variable 3 → Latent variable 4	4.288	0.000

Annex 12: PLS-SEM results for the 948 communes rank2012 included (Source: authors' calculations)

Annex 12A: Total effects (and inner VIF)

	Latent variable 1 (monuments & extra resources)	**Latent variable 2 (protect-areas)**	**Latent variable 3 (rank2008)**	**Latent variable 4 (rank2012)**	**Latent variable 5 (lodgings)**
Latent variable 1 (monuments & extra resources)	-	-	0.167 (inner VIF: 1.010)	0.271 of which 0.087 indirect effect (inner VIF: 1.040)	0.163 of which 0.043 indirect effect (inner VIF: 1.093)
Latent variable 2 (protect-areas)	-	-	0.196 (inner VIF: 1.010)	0.160 of which 0.102 indirect effect (1.052)	0.128 of which 0.027 indirect effect (inner VIF: 1.057)
Latent variable 3 (rank2008)	-	-	-	0.522 (inner VIF: 1.079)	0.097 of which 0.076 indirect effect (inner VIF: 1.505)
Latent variable 4 (rank2012)	-	-	-	-	0.146 (inner VIF: 1.564)
Latent variable 5 (lodgings)	-	-	-	-	-

Annex 12B: Construct reliability and validity

	Cronbach's Alpha	**rho_A**	**Composite reliability**	**Average Variance Extracted (AVE)**
Latent variable 1 (monuments & extra resources)	-	1.000	-	-
Latent variable 2 (protect-areas)	1.000	1.000	1.000	1.000
Latent variable 3 (rank2008)	1.000	1.000	1.000	1.000
Latent variable 4 (rank2012)	1.000	1.000	1.000	1.000
Latent variable 5 (lodgings)	1.000	1.000	1.000	1.000

Annex 12C: Discriminant validity: Fornell-Larker Criterion (and Heterotrait-Monotrait Ratio)

	Latent variable 1 (monuments & extra resources)	**Latent variable 2 (protect-areas)**	**Latent variable 3 (rank2008)**	**Latent variable 4 (rank2012)**	**Latent variable 5 (lodgings)**
Latent variable 1 (monuments & extra resources)	-	-	-	-	-
Latent variable 2 (protect-areas)	0.101	1.000	-	-	-
Latent variable 3 (rank2008)	0.187	0.213 (0.213)	1.000	-	-
Latent variable 4 (rank2012)	0.287	0.188 (0.188)	0.569 (0.569)	1.000	-
Latent variable 5 (lodgings)	0.176	0.145 (0.145)	0.148 (0.148)	0.211 (0.211)	1.000

Annex 12D: Total effects T-statistic and p-values

	T-statistic	**P-value**
Latent variable 1 → Latent variable 3	4.959	0.000
Latent variable 1 → Latent variable 4	8.010	0.000
Latent variable 1 → Latent variable 5	4.423	0.000
Latent variable 2 → Latent variable 3	7.052	0.000
Latent variable 2 → Latent variable 4	5.374	0.000
Latent variable 2 → Latent variable 5	3.040	0.002
Latent variable 3 → Latent variable 4	15.919	0.000
Latent variable 3 → Latent variable 5	4.353	0.000
Latent variable 4 → Latent variable 5	3.278	0.001