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DETERMINANTS OF ACCOUNTING CREATIVITY: EMPIRICAL ANALYSIS ON ROMANIAN SMEs IN CONSTRUCTION INDUSTRY

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Abstract: *Most research on accounting creativity in our country have approached the companies that had securities admitted on trading in the capital market. But the phenomenon may occur at the level of SME which are not listed on the stock exchange as well. This motivated us to consider this type of entities for our analysis. We focused on the construction industry as it is the base of the economy development and the accounting principles for this sector are very complex. The data was requested directly from entities and manually processed. Using two different models of multiple linear regression analysis, we have estimated the level of discretionary accruals. By comparing the results, we highlighted that for our sample the first model was more relevant. We then tested the influence that entity size, indebtedness ratio, and financial difficulties exert on accounting creativity. The results of our study did not determine a relevant impact of these determinants. We conclude that further research is needed to analyse in a qualitative approach the managers' motivations for creative accounting techniques.*

Keywords: accounting creativity, construction, discretionary accruals, earnings management, SME.

JEL classification: M41, M21, C12, C15.

1. Introduction

Accounting creativity is the subject of numerous scientific debates and research at a global level. One of the best-known and most analysed techniques is earnings management, which is based on the accrual accounting principle, and consists in distorting the results presented in the profit and loss account: reducing, increasing or maintaining them within certain limits, depending on the expectations of some users. The impact of these practices on the quality of information presented in the financial statements is significant in users' decisions and is a challenge for the accounting profession. International accounting regulators such as the International Accounting Standard Board (IASB) have as their primary objective the limitation of accounting creativity and the transparency and objectivity of the information presented in the financial statements.

Construction industry is the development basis of any national economy. One of the most important characteristics of the accounting system in this economic sector is the treatment of contracts that take place over several years, involving the recognition of expenses and revenues on accrual basis and thus creating prerequisites for creative accounting techniques.

The first manifestations of creative accounting appeared in the context of the development of capital markets and aimed at distorting the financial indicators presented to investors in order to influence the price of securities. That is why most research in the field targets the companies operating in these markets and whose financial information can have a

significant impact on the economy. However, creative practices also appear at the level of small and medium entities that are not listed, but there is not much research on them. At the same time, for listed Romanian entities the access to financial data is facilitated by the legal obligation to publish their full financial statements.

Due to the importance of construction industry to the development of the national economy, as well as to the particularities of this sector's accounting principles, our intention was to identify and analyse the creative accounting practices at the level of the Romanian SME with construction activity whose securities are not admitted on trading. To this end, we have estimated the level of discretionary accruals and we have identified and analysed the main factors of influence on them. In the light of accrual accounting principle, non-discretionary accruals are those found in economic conditions, in the entity's operating cycle, while the discretionary component of accruals is influenced by the subjective choices of management structures and is thus an element to measure the quality of the financial statements.

In the first part of the paper we analysed the relevant literature on the concepts of creative accounting and earnings management, we continued with the presentation of the research methodology and finally we synthesized the results and formulated our own conclusions.

2. Literature review

Creative accounting techniques take on different forms and rely mainly on the flexibility of accounting regulations that allow for different choices between several methods and policies for recording and presenting the economic transactions. Earnings management is one of the most debated issues of ethics in the international accounting profession (Geiger, et al., 2006, p.178). In the context of the global economy, the users of financial statements need high-quality accounting information to base their economic decisions.

According to Dechow and Skinner (2000: 237), accrual accounting is the starting point for creativity and may lead to the manipulation of entity outcomes through discretionary accruals. But determining the level of creativity is a very difficult process. In a study on the effects of the adoption of International Financial Reporting Standards, Ahmed, Chalmers and Khelif (2013) used discretionary accruals to quantify the level of earnings management, a direction adopted by many research in the field. One of the most widely used models of empirical analysis for estimating discretionary accruals is Jones Model (Jones, 1991), which uses the variance of revenues and the gross value of plant, property and equipment as independent variables. Dechow Model (Dechow, Sloan and Sweeney, 1995), also known as Modified Jones Model, diminishes the revenues variation with the variance of receivables and Chen (2010) showed that this is one of the most robust approaches to the detection of creative accounting practices and earnings management.

On the other hand, Kothari, Leone and Wasley (2005) included ROA (return on assets) in the estimation of discretionary accruals, but Keung and Shih (2014) demonstrated that such performance-based models may in some cases have significant errors with negative impact on the obtained results.

The method of estimating discretionary accruals to detect the level of accounting creativity is also used for Romanian entities. Dobre, Brad and Ciobanu (2015) estimated discretionary accruals to compare the quality of financial statements prepared by listed entities under Romanian accounting regulations and using International Financial Reporting Standards. Mătiș, et al. (2010) compared three models of empirical analysis of discretionary accruals, also using a sample of companies listed on the stock exchange. In Romanian literature we have not identified similar studies conducted on unlisted small and medium enterprises.

Douglas Moses (1987) studied the phenomenon of earnings management on a sample of 212 states in the European Union. The results of this research showed that one of the factors that can determine this kind of creative techniques is the size of the entities.

Another factor underlying the tendency to distort accounting information is the companies' necessity for financing (Yadav, Kumar and Bhatia, 2014). Thus, the financial statements are modeled to present better financial performance to creditors. This idea was also supported by the study conducted by Ciuhureanu and Balteş (2009) based on a survey on Romanian entities, study which shows that the use of creativity in accounting is motivated in a proportion of 43.1% by the need to obtain bank credits or other forms of financing. At the same time, Rodriguez-Perez and van Hemmen (2010) showed that an increase in reported debt causes entities to resort to creative accounting practices.

A research on financial predictors of bankruptcy conducted by Serrano-Cinca, Gutiérrez-Nieto, and Bernate-Valbuena (2018) revealed that the information presented by the financial statements of entities that face financial difficulties suffers significant distortions due to earnings management.

Considering these aspects, we have estimated the level of discretionary accruals and we have analysed the influence of the size of the entity, the indebtedness ratio and the financial distress on earnings management for the Romanian SME in construction industry.

3. Research methodology

In order to estimate the discretionary accruals, we conducted an empirical cross-section analysis on a sample of 29 financial statements for the year 2017 presented by small and medium construction enterprises operating on the western market of Romania in the counties of Arad, Timiș and Hunedoara. The reports have been individually requested from each entity and manually recorded, as for not listed companies the publication of full financial statements is not mandatory according to Romanian law. The necessary data was then processed in order to calculate the financial indicators appropriate to the statistical models that have been used.

In the first part of the study, we estimated the non-discretionary accruals by running a multiple linear regression model in the RStudio computer program (RStudio Incorporated, 2018). For this purpose, we calculated the amount of total accruals based on financial indicators. The net profit presented by entities in the financial statements is composed of the operating cash flow plus the amount of non-cash accruals (Teoh, Welch and Wong, 1998). Therefore, the total accruals were determined as follows:

$$(1) ACC_i = NP_i - OCF_i$$

where:

ACC_i – are the total accruals for entity i

NP_i – is the net profit for entity i

OCF_i – is the operating cash flow for entity i

Since the small and medium enterprises that are the object of our research are not required to present the Cash Flow Statement, we used a model developed by Brîndescu-Olariu (2014) to determine the operating cash flow, which allows the calculation based on the balance sheet data and the profit and loss account, without requiring additional information. The method of calculating the cash flow from operations based on this model is presented in Figure 1.

(+)	Total revenues
(-)	Decrease of provisions
(+)	Increase of deferred income
(-)	Decrease of deferred income
(+)	Increase of reserves
(-)	Profit appropriation
(+)	Increase of retained earnings
(-)	Increase of accounts receivable
(+)	Decrease of accounts receivable
<hr/>	
= Cash income from operations	
(+)	Total expenses
(-)	Impairment losses on non current assets
(-)	Increase of provisions
(+)	Decrease of reserves
(+)	Decrease of retained earnings
(+)	Increase of inventories
(-)	Decrease of inventories
(-)	Decrease of deferred expenses
(+)	Increase of deferred expenses
(-)	Interest expense
(-)	Increase of non-financial debts
(+)	Decrease of non-financial debts
= Cash outflows from operations	
Operating cash flow =	
	(+) Cash income from operations
	(-) Cash outflows from operations

Figure 1: Method of calculation of the operating cash flow
Source: adaptation after Brîndescu-Olariu (2014)

Our choice of models for estimating discretionary accruals was based on an analysis of the relevant studies on the accuracy of statistical tests and the precision of the results provided by them.

Among the first developed models in this respect are those that consider the value of non-discretionary accruals to be constant over time (Healy, 1985; DeAngelo, 1986). However, changes in economic circumstances may cause variations in non-discretionary accruals, which could determine statistical errors in models based on these premises (Kaplan, 1985: 111).

In developing their model, Jones (1991) considered the effects of modifications in non-discretionary accruals under the impact of economic changes. The author used the residual variable of the regression as a determinant of discretionary accruals. Their study was conducted on companies in the United States of America and confirmed the existence of creative accounting practices for entities listed on the stock exchange (Jones, 1991: 193). However, the author admits that the revenues reported by entities and used in their model could be influenced by the adoption of managerial decisions aimed at changing the timing of transactions, the so-called real earnings management technique (Jones, 1991: 212).

To eliminate the risk that statistical results will be altered by such operational decisions of management, Dechow, Sloan and Sweeney proposed a modified version of the Jones Model, diminishing the revenues variation with the variance of the receivables in the

regression equation (Dechow, Sloan and Sweeney, 1995: 199). Thus, estimating the discretionary accruals as proxies for earnings management will not be altered when real earnings management techniques are used, which has led us to choose this model in our case study.

Moreover, Chen (2010: 61) analyzes the detection of creative accounting practices using statistical models based on discretionary accruals and concludes that the Dechow Model (Modified Jones Model) does not present a superior alternative.

More recent research examines the impact of financial performance on the estimated level of discretionary accruals (Kothari, Leone and Wasley, 2005). The conclusions of the authors point to an increase in the accuracy of the results when the estimation takes note of the return on assets (Kothari, Leone and Wasley, 2005: 195).

Considering these aspects, we estimated the non-discretionary accruals both through the Dechow Model (Dechow, Sloan and Sweeney, 1995) and the Performance-based Model (Kothari, Leone and Wasley, 2005), comparing the results by using specific statistical criteria. We used as the dependent variable the total accruals previously calculated.

For the Dechow Model, the regression equation is:

$$(2) ACC_i = \alpha + \beta_1 \times (\Delta REV_i - \Delta REC_i) + \beta_2 \times PPE_i + \varepsilon$$

where:

ACC_i – is the value of total accruals for entity i

ΔREV_i – is the change in revenues for entity i

ΔREC_i – is the change in accounts receivable for entity i

PPE_i – is the gross value of plant, property and equipment for entity i

β – is the estimated relationship between independent variables and dependent variable

ε – is the cumulative effect of other factors that may influence the dependent variable

The independent variables of the model take into account the factors that determine the accruals and derive from the operating activity. The change in revenues diminished by the change in accounts receivables expresses the accrual income that is not reflected in the cash-flow but comes from the entity's revenues and is not influenced by management's choices. The gross value of plant, property and equipment is used because their net value is diminished by depreciation, and in terms of depreciation discretionary behavior may work, because the choice of the duration of use of the fixed assets and the depreciation method are liable to subjectivism.

For estimating non-discretionary accruals through the Performance-based Model we defined the following equation:

$$(3) ACC_i = \alpha + \beta_1 \times (\Delta REV_i - \Delta REC_i) + \beta_2 \times PPE_i + \beta_3 \times ROA_i + \varepsilon$$

where:

ROA_i – is the return on assets for entity i

Robu, Anghel and Șerban (2014) determined ROA by formula:

$$(4) ROA = EBIT (1 - \text{tax rate}) / A$$

where:

EBIT – is the value of earnings before interest and taxes

A – is the value of total assets

Since according to the Romanian tax law the income tax is differentiated by categories of entities with different taxable bases and tax rates, we have calculated ROA based on the net profit, as follows:

$$(5) \text{ ROA} = \text{NP} / \text{A}$$

where:

NP – is the net profit

A – is the value of total assets

In order to run the two regression models, the variables ACC, ΔREV , ΔREC and PPE were scaled (divided) by total asset value to obtain a set of non-dimensional estimators for both the dependent variable and the independent variables.

Using the obtained β estimates, we have determined the amount of discretionary accruals as the residuals from the regression, representing the difference between the total calculated accruals and the estimated non-discretionary accruals:

$$(6) \text{ DA}_i = \text{ACC}_i - \text{NDA}_i$$

where:

DA_i – is the value of the estimated discretionary accruals for entity i

ACC_i – is the value of total accruals calculated for entity i

NDA_i – is the value of non-discretionary accruals estimated for entity i

Having obtained the estimated level of discretionary accruals, we tested the main factors of influence we have previously identified based on the relevant literature and formulated the hypotheses for our analysis.

In their study on earnings management techniques, Douglas Moses (1987: 363) considers the public perception of companies operating on a particular market. Thus, the larger the entity, its exposure to the public space becomes more important and the tendency to use creative accounting techniques appears, in order to show financial results without time fluctuations, which does not signal any anticompetitive practices or economic crises.

Based on the results obtained by the author in this respect, we considered testing on our sample the influence that the entity size exerts on the accounting creativity by formulating the first hypothesis:

H1: *The larger the company, the higher the level of discretionary accruals.*

For obtaining financing in favorable conditions, entities tend to improve the accounting information presented during the negotiations with the financial institutions in order to improve their perception of the financing risks. This can lead to a positive correlation between entity indebtedness rate and accounting creativity and allows us to formulate the second hypothesis:

H2: *The higher the indebtedness rate, the higher the level of discretionary accruals.*

Entities with an unstable economic situation tend to manipulate the results in the financial statements to provide users with improved information and temporarily hide the difficulties they are crossing (Micah and Chinwe, 2014: 2109). This kind of techniques are meant to

maintain an improved image of the company in the perception of the market. In this direction, we have formulated the third hypothesis of our study:

H3: *The entity's financial distress has a positive influence on the value of discretionary accruals (the higher the risk of bankruptcy, the higher the level of discretionary accruals).*

We have rated the size of the entity according to the volume of total assets. We then determined the global indebtedness rate by the following formula:

$$(7) D/E = D / E \text{ (Bătcă-Dumitru, Sahlan and Irimescu, 2018)}$$

where:

D/E – is the global indebtedness rate (the leverage ratio)

D – is the value of total debt

E – is the value of equity

In order to calculate the degree of financial distress of the entities we used a predictive bankruptcy score for the Romanian companies, based on Robu (2014):

$$(8) S_i = 5,676 + 6,3718 \times ROA_i + 5,3932 \times OCF/D_i - 5,1427 \times D/A_i - 0,0105 \times APP_i$$

where:

S_i – is the predictive bankruptcy score for entity i

ROA_i – is the return on assets for entity i, calculated as in formula (5)

OCF/D_i – is the cash flow debt coverage for entity i, calculated as the ratio between the operating cash flow and total debt

D/A_i – represents the leverage ratio of the assets for entity i, calculated as the ratio between total debt and total assets

APP_i – is the average payout period for entity i

The average payout period was calculated as follows:

$$(9) APP = AD / REV \text{ (Robu, Anghel and Șerban, 2014)}$$

where:

AD – is the average amount of debt

REV – is the value of total revenues

To test the three formulated hypotheses, we run the linear regression model in RStudio computer program (RStudio Incorporated, 2018):

$$(10) DA_i = \alpha + \beta_1 \times A_i + \beta_2 \times D/E_i + \beta_3 \times S_i + \varepsilon$$

where:

DA_i - is the value of the estimated discretionary accruals for entity i

A_i - is the value of total assets for entity i

D/E_i - is the global indebtedness rate for entity i

S_i - is the predictive bankruptcy score for entity i

To eliminate the scale effect, the data was restated using the zero-mean normalization method, resulting in a set of non-dimensional estimators for model variables.

4. Results and discussions

Using the two models of non-discretionary accruals estimation, we synthesized two sets of obtained results in Table 1 and Table 2.

Table 1: The results on non-discretionary accruals using the Dechow Model

Residuals:					
Min	1Q	Median	3Q	Max	
-0.81429	-0.26278	-0.03103	0.12677	2.87471	
Coefficients:					
	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	0.10583	0.13260	0.798	0.432008	
$\Delta\text{REV} - \Delta\text{REC}$	-0.09304	0.02369	-3.928	0.000564	***
PPE	-0.27760	0.02847	-9.749	3.59E-10	***
Signif. codes	0 '****'	0.001 '***'	0.01 '*'	0.05 '.'	0.1 '' 1
Residual standard error: 0.6775 on 26 degrees of freedom Multiple R-squared: 0.7854, Adjusted R-squared: 0.7689 F-statistic: 47.57 on 2 and 26 DF, p-value: 2.052e-09					
Durbin-Watson test:					
DW = 2.4286, p-value = 0.8809 alternative hypothesis: true autocorrelation is greater than 0					
Akaike info criterion 64.54733					
Bayesian info criterion 70.01652					

Source: Authors own computation

Table 2: The results on non-discretionary accruals using the Performance-based Model

Residuals:					
Min	1Q	Median	3Q	Max	
-0.82594	-0.27397	-0.03745	0.11888	2.86419	
Coefficients:					
	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	0.11780	0.16864	0.699	0.491283	
$\Delta\text{REV} - \Delta\text{REC}$	-0.09246	0.02463	-3.753	0.000931	***
PPE	-0.27791	0.02914	-9.536	8.39E-10	***
ROA	-0.10107	0.85154	-0.119	0.906466	
Signif. codes	0 '****'	0.001 '***'	0.01 '*'	0.05 '.'	0.1 '' 1
Residual standard error: 0.6907 on 25 degrees of freedom Multiple R-squared: 0.7855, Adjusted R-squared: 0.7597 F-statistic: 30.51 on 3 and 25 DF, p-value: 1.617e-08					
Durbin-Watson test:					
DW = 2.4284, p-value = 0.8896 alternative hypothesis: true autocorrelation is greater than 0					
Akaike info criterion 66.531					
Bayesian info criterion 73.36748					

Source: Authors own computation

The result of the Durbin-Watson test for both models is close to baseline 2 and the test probability of 88.09% in the first model and 88.96% in the second model does not reject the null hypothesis of this test, that there is no autocorrelation between the residuals.

By comparing the obtained results, it is first noted that for ROA used as an independent variable in the second model, the value of the t-student test is well below the threshold of 2, so that this variable does not have a significant impact on non-discretionary accruals. This assertion is also reinforced by the value of the significance threshold illustrated by $Pr(>|t|)$, which exceeds 10%, therefore not being statistically accepted.

At the same time, both the Akaike info criterion and the Bayesian info criterion show inferior values for the Dechow Model, which is more economical than the performance-based one. For these reasons, in the second part of our study we used the results obtained with Dechow Model. According to these, we have a negative correlation of -9.304% between non-discretionary accruals and the change in revenues diminished by the change in receivables ($\Delta REV - \Delta REC$). The situation is similar in the case of the gross value of plant, property and equipment (PPE) with an inverse variation of -27.76%.

The residuals of the regression express the estimated level of discretionary accruals for each entity.

In Table 3 we synthesized the results of the linear regression model for estimating the discretionary accruals according to the variables that quantify the factors of influence we identified in the literature: the size of the entity, the indebtedness ratio and the financial distress.

Table 3: The results on discretionary accruals

Residuals:				
Min	1Q	Median	3Q	Max
-1,2770	-0,4242	-0,0629	0,1565	4,4711
Coefficients:	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	3.046E-11	1.992E-01	0.000	1.000
A	3.245E-02	2.007E-01	0.162	0.873
D/E	2.341E-02	2.008E-01	0.117	0.908
S	7.911E-02	1.994E-01	0.397	0.695
Residual standard error 1.073 on 25 degrees of freedom				
Multiple R-squared: 0.007819, Adjusted R-squared: -0.1112				
F-statistic: 0.06567 on 3 and 25 DF, p-value: 0.9776				
Durbin-Watson test:				
DW = 2.3864, p-value = 0.8729				
alternative hypothesis: true autocorrelation is greater than 0				
Akaike info criterion	92.07078			
Bayesian info criterion	98.90726			

Source: Authors own computation

We noted that the obtained results reject the three formulated hypotheses, the significance threshold value $Pr(>|t|)$ exceeds 10% for each of the dependent variables. In other words, the size of the entity, the indebtedness ratio and the financial distress have no statistical significance for the model, the estimated discretionary accruals could not be explained by these three determinants.

4. Conclusions, research limitations and future directions

Although accounting creativity among listed companies has a significant impact on the economy, these practices are also found at the level of small and medium enterprises and can influence the quality of the information presented by their financial statements. Therefore, analysing earnings management due to accrual accounting for this type of entities is important in accounting research.

Our study aimed to determine the discretionary accruals in Romanian construction industry at the level of unlisted SME and to analyse the impact of some determinants on accounting creativity. This is our contribution to accounting research, as all similar studies identified in Romanian literature have lent to the listed entities.

The level of discretionary accruals was estimated using the Dechow Model and the Performance-based Model, the latter being less economical. That is why the results of the Dechow Model were used in our analysis.

As for the underlying factors for accounting creativity, our study did not provide conclusive results that the size of entity, the indebtedness ratio or the financial distress had an impact on earnings management.

One of the limitations of our research is the small size of the statistical sample, that is due to the difficulties in obtaining the necessary data, because in Romania the non-listed SME are not obliged to publish the financial statements in full. Another impediment was the manual processing of the obtained information in order to determine the financial indicators required for the development of the models.

However, estimating discretionary accruals over a single period of time is not an unbeatable proof of managers' intention to manipulate earnings through creative techniques, but can only show that there are disruptions to financial indicators at a given time. Therefore, the results must be complemented by a qualitative analysis of the events that have determined changes in the structure of the financial statements.

At the same time, in studying the motives of management bodies for accounting creativity, a qualitative approach is required, taking into account the cultural, professional and business ethics considerations. Survey-based studies may be more relevant for such an approach.

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In the current paper we continued the previous research by identifying the determinants and analyzing their impact on the creative accounting practices in the presentation of the financial statements by the Romanian SME in construction industry.

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Bio-note

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OPTIMAL MONETARY AREAS AND MONETARY POLICY. AN ANALYSIS OVER WORLD POWER CENTERS

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Abstract: *The phenomenon of power in international relations has always caused interest. The current international environment is extremely amplified and interconnected, and developments in recent decades have led to the foundation of a multipolar system. At present, the competition between power centers in the world economy is manifested at all levels of power, especially from an economic perspective. There is a clear desire for the Western European states that are members of the European Union and the BRICS to detach from their financial dependence on the US dollar and the United States financial instruments. We propose to analyze whether there are correlations between the monetary policies adopted by these entities and the characteristics of the optimal monetary areas. If monetary policy moves closer to the optimal monetary area specifications, then does that global influence increase?*

Keywords: power centers, monetary union, economic power, optimal monetary area, monetary policy

JEL classification: E42; E52; E58; F02; F33; F45; F50; O50

1. Introduction

In the academic environment and politics, there are many debates about the power relations in the world economy. The topic is interesting and generates different approaches of specialists from different structures of society. Associated with terms such as force, influence, domination and authority, power has a broad framework of definition and interpretation depending on the domains in which it manifests itself. Thus, in a sociological view, power manifests itself in social relations as an imposing of own will despite the resistance encounter (Zamfir and Vlăsceanu, 1998: 478). On the other hand, from a geopolitical perspective, power is considered a way for society to guarantee its survival (Nivaldo, 2001: 24), in military terms speaking; it expresses the ability to carry out the military actions necessary to promote its own political interests and its own security, but also of its allies (Ancuț, 2009).

From a philosophical point of view, power is regarded as a change in the inner state of a person or group of people (Foucault, 2005: 416-417), while in a political vision it is seen as the possibility of generating changes and to react to change (Nye, 2011: 5).

A more synthetic view is that of Gerard Kebabdjian, according to which power is the ability of economic or political entities in the world economy to significantly influence international relations. This capacity includes five plans: physical (existence of natural resources), military, economic, political and cultural. Of all this, the most important is the economic dimension, divided into four plans: industrial and service, monetary-financial, IT and research – development (Kebabdjian, 1994: 297).

With these considerations, we believe that power has an essential role in social and international relations, being represented by an actor which through economic, moral, political, military and cultural methods, imposes his own will on the behavior of other actors. But of all the components of power, the economic dimension remains the most important, being a helpful ingredient for the manifestation of the other elements of power. Over time, it has been expressed through other varieties of power and the historical evolutions of international political and social conditions have caused changes in power structures.

Usually, the economic power is measured by different indicators from various economic areas, such as the economic and financial stability, demographic factors, labor market and quality of economic infrastructure, technology and innovation. The most common indicators in order to study the economic power are the Gross Domestic Product (GDP), foreign trade indicators, foreign direct investments, inflation rate, interest rate, fiscal balance, exchange rate fluctuations, public and external debt, unemployment, labor productivity, population, R&D expenditure and high technology investments.

However, there are some composite indicators used by specialized institutions and international organizations for power quantification. The most significant institutions and organizations are: World Economic Forum, World Bank, World Intellectual Property Organization (WIPO), United Nations Development Programme, Heritage Foundation, Central Intelligence Agency, European Statistical Office (Eurostat) and The Business School for the World.

2. Power politics and optimal monetary areas - theoretical foundations

The transition from US-Soviet bipolarity to American supremacy, followed by current multi-polarity, has increased interest in studying economic power on all its plans. These phenomena have been studied by many authors, depending on the international environment. In the last decades, the international system is shaped as a multi-polar structure. It is believed (Huntington, 1999: 35-36) that there is a superpower (United States) and a series of regional powers (China, Russia, Germany, Japan, France, India, Nigeria and South Africa). At the same time, a US-based pyramid structure (Gelb, 2009) is being set up, followed by European countries (Germany, Great Britain, France), Asia (Russia, China, India, Japan) and Brazil. On the other hand, the United States, the European Union and China are seen as entities capable of influencing the international environment through their decisions, which can be confirmed or blocked by Russia, Japan and India, viewed as secondary powers (Khanna, 2008: 17-21).

Although international organizations and companies influence transnational policy, and while United States dominates military dimension, (Nye, 2011: 14-15) power relations have a multipolar structure, grounded in the influence of the US, the EU and the BRICS. Their actions over different economic forms, including monetary ones, are correlated with the degree of financial development of each.

The most widely used indicator to quantify the economic power between states is Gross Domestic Product. The role of this indicator is to study the world power centers through it.

In the table below, it can be observed that GDP increased in 2017 compared to 2016 for all three power centers. The highest values of GDP, both as purchasing power parity and per capita was registered by BRICS countries. However, BRICS countries cannot be seen as a unitary power center. Brazil, Russia, India, China and South Africa cooperate in different areas, but not at the same level as European countries. The BRICS cooperation is mostly in foreign trade, investments and finance, but the decisions are not taken at central level or by a central authority. Therefore, it is better to study them individually.

Even if the BRICS countries are treated separately, China remains the country with the highest value of GDP as purchasing power parity, having \$21.41 trillion in 2016 and \$23.30

trillion in 2017, more than the other BRICS countries combined. China is followed by European Union with \$20.25 trillion in 2016 and almost \$21 trillion in 2017 and by United States, with \$18.62 trillion and \$19.39 trillion in the reference period.

Table 1: The GDP for world power centers in 2016 and 2017

Power Center	GDP, PPP (current international trillion \$)		GDP per capita, PPP (current international \$)	
	2016	2017	2016	2017
United States	18.62	19.39	57,589	59,532
European Union	20.25	21.07	39,625	41,126
BRICS	37.64	40.55	75,356	78,377
Brazil	3.15	3.24	15,181	15,484
Russia	3.64	3.81	24,819	25,533
India	8.70	9.44	6,574	7,056
China	21.41	23.30	15,531	16,807
South Africa	0.74	0.76	13,251	13,498

Source: The World Bank, World Development Indicators, last update 14th November 2018

But it is necessary to take a look at GDP per capita, which provides a much better determination of living standards than GDP value. Even if China produces a lot, it generates less per person than United States, European Union or Russia. A low GDP per capita indicates lower standard of living while a high GDP per capita means a more efficient economy. Thereby, from the table above, it can be observed that United States and European Union have the most favorable standard of living. The United States GDP per capita is over \$57,000 and twice than the value of Russia for both years, followed by European Union with almost \$40,000 in 2016 and \$41,126 in 2017. From the BRICS countries, Russia has the highest value of GDP per capita, almost \$25,000, while China's value is close to the Brazil's value and over twice than India.

Another way to study the hierarchy between power centers is to compare them by foreign trade indicators and foreign direct investments. Even if China has the highest value of GDP as purchasing power parity and United States the best GDP per capita, the foreign trade is dominated by European Union, which in 2017 exports and imports more than United States and BRICS countries together. According to Table 2, European Union's exports reach almost \$7.95 trillion, while imports are about \$7.3 trillion, generating the largest trade surplus of \$653.8 billion. European Union is followed by BRICS countries, with less than half of the European Union's values.

Table 2: The foreign trade for world power centers in 2017

Power Center	Exports of goods and services (BoP billion \$)	Imports of goods and services (BoP billion \$)	External balance (billion \$)
United States	2351.07	2903.34	-552.27
European Union	7949.18	7295.39	653.79
BRICS	3679.13	3422.08	257.05
Brazil	251.72	221.54	30.18
Russia	411.27	326.95	84.32
India	489.40	561.61	-72.21
China	2422.91	2213.18	209.73
South Africa	103.83	98.80	5.03

Source: The World Bank, World Development Indicators, last update 14th November 2018

Considering that BRICS are not a unitary power center driven by a central authority, the second position is occupied by China, whose exports reach \$2.42 trillion and trade surplus counts \$209 billion. Only on imports of goods and services, China is overtaken by United States with almost \$700 billion. But, United States has a big problem, just like India, because of the trade deficit situated at \$552.27 billion. India, which is the fourth importer and exporter among the analyzed countries, has a trade deficit of \$72.21 billion. The other BRICS countries have trade surplus due to the superiority of exports to imports. So, Russia has a trade surplus of almost 84.3 billion, followed by Brazil with \$30 billion and South Africa with \$5 billion.

Regarding foreign direct investments, European Union is the world's largest investor and the power center that attracts the most foreign investments. Actually, European Union invests twice more than United States, as it results from Table 3. The European Union's FDI outflows are almost \$769 billion, while United States invests \$379 billion on foreign markets. They are followed by China with almost \$102 billion, whilst the other BRICS countries invests together only \$61.5 billion. The hierarchy is the same regarding FDI inflows. European Union benefits from investments worth of almost \$605 billion, followed by United States with \$354.8 billion and China with \$168.2 billion.

Table 3: The foreign direct investments for world power centers in 2017

Power Center	FDI net outflows (BoP billion \$)	FDI net inflows (BoP billion \$)	FDI net (BoP, billion \$)
United States	379.22	354.82	24.4
European Union	769.11	604.92	164.19
BRICS	163.45	308.78	-145.33
Brazil	6.26	70.68	-64.42
Russia	36.75	28.55	8.20
India	11.09	39.96	-28.87
China	101.91	168.22	-66.31
South Africa	7.44	1.37	6.07

Source: The World Bank, World Development Indicators, last update 14th November 2018

But, a few differences are related to net FDI, where only Russia and South Africa have positive values among BRICS countries, \$8.2 billion and \$6 billion. China has the largest investments deficit of almost \$66.3 billion, followed by Brazil with \$64.4 billion. Overall, the BRICS countries have an investments deficit counted at \$145.33 billion, while United States and European Union have a surplus of \$24.4 billion and almost \$164.2 billion.

However, it is, also, important to analyze the financial environment and the monetary stability for these three power centers. Beyond the measurement of financial indicators, a more essential aspect is to find out if at least one of these three power centers can be considered an optimal monetary area.

"The optimal monetary area is why the cost of giving up flexible exchange rates or the realignment option is lower than the benefits of a single currency." (Marinas, 2008, p. 156) According to the same theory, a deeper monetary integration leads to a larger commercial opening of the economy (Marinas, 2008, pp. 155-213).

According to Radu Golban and Grigore Silasi, the optimal monetary area represents the path to be followed between stable and flexible exchange rates. The dilemma of the best option has a direct correlation with the balance of payments disequilibrium. They explain that the methods of preventing and eliminating the imbalance are based on the exchange rate. First, in the case of a stable exchange rate, the intervention of the Central Bank in the foreign

exchange market leads to the removal of imbalances. This willingness of financial policy impedes an autonomous trade policy. In the second case, when there are flexible exchange rates, the elimination of the disequilibrium of the balance of payments is done through the exchange rate. Exchange rate fluctuations lead to an increase or decrease in the competitiveness of domestic products, ultimately leading to a balance of payments adjustment. Thus, in the case of flexible exchange rates, the country can pursue an autonomous monetary policy (Golban and Silași, 2009: 18-21).

The more the monetary union approaches the characteristics of an optimal monetary area, the greater the chances that the union will impose itself as a worldwide power center. An optimal monetary area implies that Member States' economies are synchronized or tend towards synchronization, which gives the whole union greater stability and increased protection against various internal or external shocks. Such a monetary union may focus on other objectives, such as its imposition on the world stage, as a center of power.

3. Optimal monetary areas in relation to the main global power poles

In acquiring the status of world power, the monetary policy of the states also involves an important role. Global power is also characterized by a coherent monetary policy, a strong currency and a strategy for imposing the single currency as a coin used in international trade. Mundell believes that there must be fixed exchange rates between participants in an optimal monetary area, aiming at introducing a single currency. At the same time, flexible exchange rates must be maintained in relation to other partners that are not members of the optimal monetary area (Mundell, 1961: 659-660). In our analysis we have stopped on three entities that have a significant influence over the world economy, giving it a multipolar structure (Nye, 2011, pp. 14-15). Each analyzed entity is totally different in the monetary integration process. On the one hand, we have the BRICS countries as emerging power centers, but which do not have a common monetary policy; on the other hand, we have two traditional powers: the European Union, which is in the process of implementing a monetary union with a common monetary policy and the United States of America, where we are talking about a political union, the next step after the monetary union.

3.1. BRICS – lack of a common monetary policy

Within this "group of states" we cannot discuss a common monetary policy, because each state has its own monetary policy, namely its own currency. In the following, we can observe discrepancies between BRICS member states through monetary policy. Each analyzed state has its own views on the monetary system. As we can see, some states have managed to impose their monetary policy in the region, while others have failed in their attempt.

Brazil had the national currency (the Brazilian real) linked to the US dollar for five years. Only after a series of events that affected the Brazilian economy, Brazil's Central Bank decided to set up an exchange rate to the dollar. Still, the stagflation faced the discrepancies in development between regions and political instability cannot create the conditions for predictability of monetary policy.

The Russian Federation, by the nature of the formation of the state, is a monetary union. We are talking about a unique currency, ruble, which has an unpredictable evolution. In the last 25 years, the ruble has gone through two major depreciations against the dollar. These events, correlated with an incoherent policy of the Russian Central Bank and oligarchic system in the private banking system, led to the exclusion of the currency on the world trade scene. The ruble has only a regional influence; it is used in trade with Russia by the so-called "satellite state", like former members of the Soviet Union.

India, with its Indian rupee, is facing a high level of corruption and an extremely high poverty rate. We are talking about a developing economy that has managed to attract many

investors, even if India still have a large population that lives with less than a dollar per day. India has still failed to impose its currency and monetary policy as a benchmark in the region, but India's potential is still high.

China, among all BRICS countries, plays the role of world power through monetary policy, although Yuan is not a widely used currency in the world. China has the second largest GDP in the world, but it is at half the world's list of GDP per capita. Even if it is the world's largest exporter, most of the Chinese currency reserves are in US dollars. At the same time, China has the most American debts. So, in China's case, we cannot talk exclusively about acquiring power through monetary policy. However, China has managed to make the US dollar addicted on Chinese regime decisions.

The last of the BRICS members, South Africa is the most developed country in the African continent. We cannot say that it plays an important role in the world economy because the national currency is not a currency used in world trade.

In conclusion, we can observe that the lack of a common monetary policy of the BRICS member countries makes it harder for them to be remembered worldwide as standards in the monetary field. As long as we are not talking about a BRICS monetary union, we cannot even discuss of fitting this entity into an optimal monetary area. As we can see, there are very large discrepancies between the monetary policies of the BRICS constituent states, so that a potential monetary union cannot be outlined in the future.

3.2. European Union - a monetary union under construction

The second world power on which we stop is the European Union. At present, the European Union plays an important role in world trade, and at the heart of its development is the European single currency. The euro is the second most used currency worldwide after the US dollar.

Out of the 28 countries, only 19 EU countries have joined the euro area, other countries using the euro have been negotiated with other euro zone countries under the approval of the Council of the European Union: Vatican and San Marino (both countries have an agreement with Italy and use customized coins), Monaco (agreement with France, uses customized coins), Andorra (uses euro coins from France and Spain). Without the agreement of the Council of the European Union, the euro is still used in Montenegro and Kosovo. The European currency is also used in the former French, Portuguese and Spanish colonies, which have retained their dependence on European countries. Even if they met all the criteria for joining the Euro zone, the Great Britain and Denmark received derogation from not adhering to the single currency, so they did not give up monetary sovereignty but joined the community (Padoa-Schioppa, 2000, pp. 168-181). Although it has not formally received any derogation, Sweden is not interested to join the European single currency.

Fortunately, joining the European Union is also not conditional on joining the European Monetary Union. However, EU Member States have assumed that they will join the euro area at the appropriate time. In order to join the European Monetary Union, states must meet the nominal criteria set out in the Maastricht Treaty, but the most important issue is to want this change. Abandoning the national currency and adopting the common currency is a political decision, and states do not make this a priority. At the level of the European Union, we have a monetary policy assumed by all states, but that is not an immediate priority, and the member states can only join at the time they consider to be a good one. The European Monetary Union is not an optimal monetary area, but it is on a favorable path. Within the monetary union, we are talking about fixed exchange rates between members, and a fluctuating exchange rate is used in relations with foreign countries.

3.3. The United States - an example of good practice

The last world power analyzed is the United States of America. The world's main power has the most influential currency in the world. The US dollar is the most used currency in world trade. We can consider the United States as a monetary union, a union that is the closest to what an optimal monetary area should look like in theory. The main advantage of the United States is represented by the lack of a development gap between the constituent states. Within the union, we speak of a free movement of all factors of production.

In addition to all these features, the dollar has been and still is being used as a reference currency. This also comes from the backing of the golden dollar in the past. The strong economy of the United States of America and its dominant power in the world is also due to the consistent and predictable monetary policies that the governments had it over the time.

3.4. Differences in monetary policy

As we have seen through this theoretical approach to the theme, between the three world power centers, there are differences in the perspective of monetary policy. Each of the three world powers places at a different stage in the implementation of a monetary union. We can see that the world power status is related to the proximity of the union of what the needles are optimal monetary areas.

The United States currently holds the status of a major powerhouse. At the same time, the United States is the closest example of the optimal monetary area. The US dollar has succeeded in imposing itself at the international level as the main currency used in international relations.

Unlike the United States, the European Union is characterized only by an economic and monetary union; it has not reached the status of a political union. The European Monetary Union cannot yet be considered an optimal monetary area. The economies of the Member States are not yet fully synchronized, and at present, not all the Member States of the European Union are also members of the monetary union. However, the European Union is considered a global powerhouse and the euro is an international standard. The euro is the second most important currency in international relations, after the US dollar.

On the other hand, the BRICS countries have a special status. We may consider some member countries, such as China or Russia as world power centers, but we cannot consider BRICS as such a center. First, there is no economic or monetary legally binding link between the member countries. Another element is the lack of a common currency, which prevents this entity from imposing itself globally. However, perhaps the most important element is the lack of a common monetary policy, which prevents BRICS from imposing itself through the coins used worldwide.

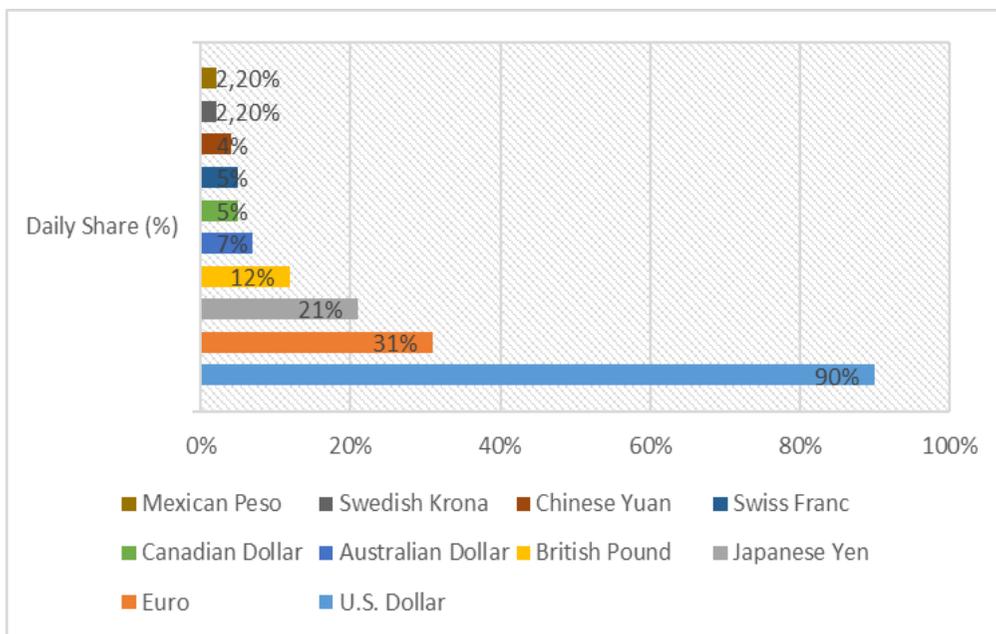


Figure 1: The most traded currencies in 2018

Source: Bullmarketz.com, The 10 Most Traded Currencies in 2018, available at: <https://bullmarketz.com/the-10-most-traded-currencies-in-2018/> [accessed 13.01.2019-]

In Figure 1, we can see which the most traded currencies are in 2018. The total percentages are 200%, because two coins are involved in an exchange relationship. As we can see, the US dollar is by far the most used currency in 2018. Most of the world's trades were conducted through this currency, about 90% of transactions.

Also from Figure 1, we can see that the second most used currency in 2018 is the euro, about 31%. As a result, 121% of all transactions have the two currencies in the center. This gives both the United States of America and the European Union the status of major players in the foreign exchange market. This dominance overlaps with the status of power centers of the two state entities.

The single currency of a BRICS member country present in the top 10 is the Chinese Yuan, ranked 8 with only 4% of global transactions what denotes again the lack of monetary policy by both the BRICS and each member sharing. Until the BRICS countries implement a cohesive and sustained monetary policy, even if they do not go as far as a single currency, they cannot be imposed as world leaders in the currency field. The lack of a strong voice in monetary policy diminishes the status of world power center for BRICS.

4. Conclusion

In conclusion, we have three world center powers with their own distinguishing features. Because the Gross Domestic Product is the most widely used indicator to quantify the economic power, it is necessary to study the world power centers through it. Even if, BRICS countries have the highest values of GDP as purchasing power parity, per capita and cooperate in different areas, these countries cannot be considered a united power center as European countries. Therefore, China remains the country with the highest value of GDP as purchasing power parity, but it cannot be translated in favorable standard of living. United States, followed by European Union, have the most favorable living conditions due to high

levels of GDP per capita. Despite that China has the highest value of GDP; European Union remains the strongest power center regarding foreign trade and foreign direct investments. Therefore, European Union has the largest trade volume, is the world's largest investor and the power center which attracts the most foreign investments. In addition, European Union has a positive external balance, twice as high as BRICS countries and benefits by a FDI surplus bigger than that of American economy. Regarding United States, it has the best living conditions, it is the world's second investor and importer, but have problems with trade deficit.

Following the analysis of the various hypotheses in the literature, we can conclude that we have three great powers with their own monetary policy overlapped with the characteristics of an optimal one. If the BRICS countries do not have a common monetary policy - so we cannot discuss that they are characterized by a single currency - the situation is different for the European Union and the United States. The European Union has in its composition a monetary union. Although we can consider at the moment that the euro area is at a relatively early stage, it has gone through many challenges. However, the euro is an important currency of today's importance. On the other hand, we have the United States, the single currency that meets most of the features of an optimal monetary policy. This is also reflected in the dominant US dollar position in the global economy.

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THE RELATIONSHIP BETWEEN AIMS, METHODS AND THEIR FINANCIAL ASPECTS IN THE CASE OF SOCIAL INNOVATIONS IN THE FIELD OF DISTRICT HEATING

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Abstract: *In the field of district heating the process of social innovation has been initiated for the betterment of environmental conditions and contributes to the improvement of the quality of life at the given locations and to the general well-being of the local community. The aim of this study is to present a good practice of social innovation. The technological development and the implementation of professional innovations at the Miskolc District Heating Ltd. established an operational environment of district heat production that, via the model of optimal heat source mix, can serve as an example for the planning of heat-source portfolios at the Hungarian district heating systems. The study shows how it contributes to the accomplishment of the European and Hungarian energy strategy. It also focuses on the use of eco-label and good examples of using renewable energy sources in district heating. The results of the study are applied to prepare a detailed map of the element of social innovation networks in the field of district heating and to determine the indicator groups with a special focus on its financing and economy.*

Keywords: Performance Management, Healthcare, Balanced Scorecard, Public sector.

JEL classification: K32.

1. Introduction

The approaches toward social innovation are numerous and various; there is no one commonly accepted definition of the term. There is a notable difference between definitions in relation to the well-being of the community and the novelty of solutions to social issues. By taking these into account we define social innovation as follows: "Social innovation provide new or original solutions in solving the problems of a community with the aim of improving its well-being" (Kocziszky, Veresné and Balaton, 2017). The balance between social and economic goals is an important part and also a specificity of the notion of social innovation. Its main characteristic is to serve the social good which cannot be achieved without considering the economic approach. (Szegedi, Fülöp and Bereczk., 2015).

Besides fulfilling the sustainability and environmental protection strategies and action plans of the European Union and Hungary, the technological developments carried out in the field of district heating also fit into the definition of social innovation, i.e. by lessening the environmental pressure they contribute to the improvement of the quality of life.

Social innovation among the district heating suppliers falls into several categories. The present study focuses on the role of the environmentally friendly heat source mix.

2. The relationship between aims and methods of social innovation in the field of district heating

The characteristic of social innovation is that “in order to increase the well-being of the community it finds new solutions and, as a tool reflecting on challenges, it results in novel approaches” (Varga, 2017: 7).

Earlier studies concluded that the innovation goals of companies are mainly focused toward financial success (Szabó, 2012); technological innovation in itself does not result in social value (Hortoványi, 2012) and innovation always has economic and non-economic aspects as well (Hetsi, Vilmányi, 2009, Musinszki, 2016).

Based on the hierarchy of human and communal needs Kocziszky, Veresné and Balaton (2017) summed up the potential problems that can be solved through innovative solutions, solutions that can also create social values.

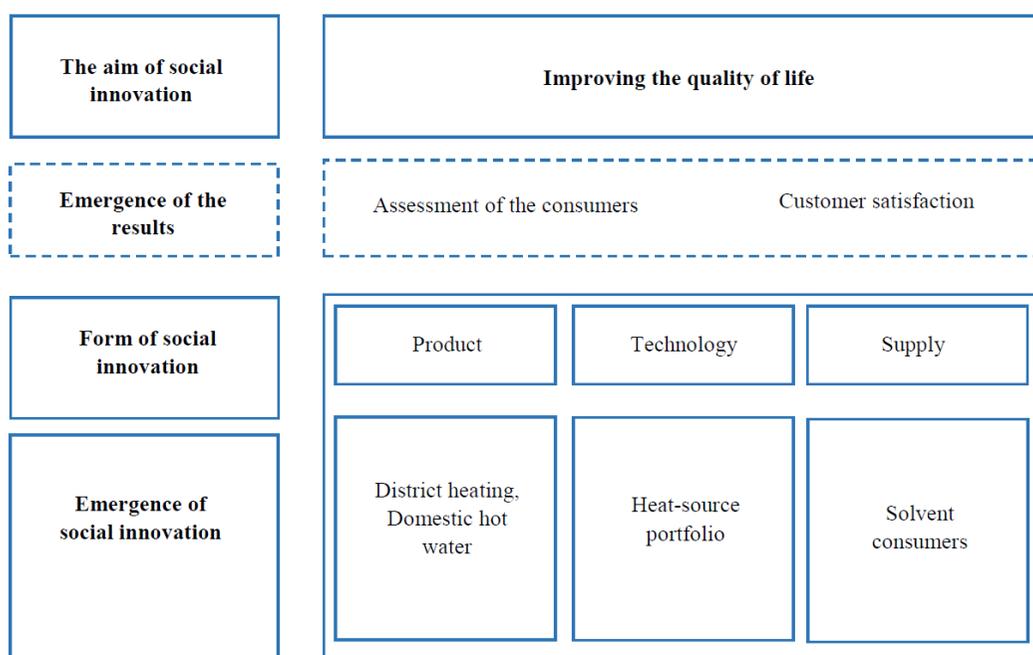


Figure 1: The relationship between aims, methods and their financial aspects in the case of social innovations in the field of district heating

2.1. The “product” of district heat suppliers

“Hungary is not a rich country in terms of extractable energy carriers. Therefore it is in its outmost interest to use energy carriers in effective and responsible ways. Roughly 80% of the energy consumption of the households is for heating purposes (heating, domestic hot water and cooking). Most of it is provided via individual, natural gas heating units, firewood and district heating” (Ministry for Innovation and Technology, 2012)

Although the assessment of district heating varies from country to country, experts usually point out the following benefits: There are no heat generators per building which means there are no harmful emission sources. District heating emits harmful substances in a concentrated way which is more preferable from an environmental protective point of view (Bauman, 2012). Therefore the development of existing district heating systems, the

increase of their capacities and the “product” supplied can satisfy the society’s need on a higher level, even if the technology does not change.

2.2. Technology used by the district heating suppliers

In the European energy strategy renewable energy sources play an extremely important role. The strategy aims to increase the share of renewable energy to 20% by 2020. By 2030 the target is 32 %, and for 2050 it is 55%.

In accordance with EU guidelines, the Hungarian target of energy from renewable sources in gross final consumption of energy by 2020 should be 13% compared to the 4,3% of 2005. “Among renewable sources priority is given to the use of biogas, bio-mass and the utilization of geothermal energy that serve primarily but not exclusively heat generating purposes.” (Ministry for Innovation and Technology, 2012).

2.2.1. The European energy strategy

Energy is necessary for life. It is needed in our everyday life for heating, lightning, transportation, industries, etc. “The well-being of the people, industrial competitiveness and the operation of the society as a whole depend on secure, reliable, sustainable and economic energy” (European Committee, 2011). Due to this fact appropriate energy carrier management is essential. The EU Energy strategy has been formulated along these basic premises. In the strategy the EU set targets for 2020, 2030 and 2050 (European Committee, 2012).

The energy policy emphasizes the need for sustainable, affordable, competitive and secure energy supply. Due to the limited resources only rational and efficient usage can assure sustainability. If we succeed the resulting profit is manifold: not only will carbon-dioxide emission be cut, but additional benefits arise as well, like new job creation and cost reduction (European Committee, 2012).

Renewables play an important role in the energy strategy. By 2020 the share of renewable energy shall be increased to at least 20 %. (European Commission, 2018).

2.2.2. Hungarian energy strategy

Historical and technical heritage of the Hungarian formation of district heat supply decisively affects heat producers, heat suppliers and consumers.

Efficiency of heat suppliers is basically influenced by the purchase price, which is affected by the used up

- energy resources and
- energy producing technologies of heat suppliers.
- The Table 1 shows the amount and ratio of used up energy resources by district heat producers.

Table 1: The amounts of fuel used for electricity production

Energy sources	The amounts of fuel used for electricity production					
	[TJ]	[%]	[TJ]	[%]	[TJ]	[%]
	2014		2015		2016	
Total energy source consumption	64,415	100	64,299	100	63,494	100
Natural gas	40,877	63.46	43,510	67.67	44,786	70.54
Fuel oil	285	0.44	165	0.26	149	0.23
Heating oil	1	0.00	9	0.01	5	0.01
Propane-butane gas	2	0.00	1	0.00	4	0.01
Landfill gas	15	0.02	11	0.02	7	0.01
Sewage sludge-gas	46	0.07	50	0.08	59	0.09
Recuperated gases and waste heat	5,269	8.18	6,194	9.63	4,679	7.37
Biomass	6,844	10.63	9,821	15.27	10,024	15.79
Coal products	7,794	12.10	1,254	1.95	812	1.28
Communal waste	3,281	5.09	3,283	5.11	2,968	4.67

Source: Hungarian Energy and Public Utility Regulatory Authority (2018). Data of the Hungarian district heating sector 2017.

Hungarian heat production decisively uses fossil fuels, in particular with the amount and ratio of gas usage. A rise could be observed in the usage of gas in the last three years, on the other hand it is pleasing that the ratio of the use of biomass is also on the rise. In their study, Petrovics and Szilágyi present that, besides the positive impact on the environment, the use of renewable energy sources, such as biomass, might also have economic considerations (Petrovics and Szilágyi, 2013).

The relationship between energy resources and energy producing technologies is deterministic. Table 2 shows the performance of technologies utilising renewable energy resources.

Table 2: District heating capacity of renewable technologies

Renewable energy source-based energy producing technologies	Nominal district heating capacity					
	2014		2015		2016	
	MW	[%]	MW	[%]	MW	[%]
Landfill gas based technology	1.89	0.20	1.89	0.20	1.89	0.19
Sewage sludge-gas based technology	0.23	0.02	0.23	0.02	0.23	0.02
Solar energy based technology	0.60	0.06	0.60	0.06	0.60	0.06
Thermal water based technology	115.50	12.48	119.28	12.75	177.86	17.82
Biomass based technology	807.03	87.22	813.33	86.96	817.73	81.91
Total nominal district heating capacity of renewable energy source-based heat producing facilities	925.25	100	935.32	100	998.31	100

Source: Hungarian Energy and Public Utility Regulatory Authority (2018). Data of the Hungarian district heating sector 2017.

Hungary's National Strategy on Energy Efficiency created in 2015 determines the main action points that contribute to the district heat efficiency and the changes in the ratio of energy resources. „Besides the energy efficiency modernisation of buildings, primary side energy efficiency modernisation of Hungarian district heat supply systems, their placement on renewable basis, as well as the their combined development (primary side energy efficiency modernisation and focus on renewables)” appear as priority actions in KEHOP (Environment and Energy Operational Programme) for 2014-2020 (Ministry for Innovation and Technology, 2017).

In line with the aims of the National Energy Strategy the district heating sector carried out several innovative investments to develop an environmentally friendly, efficient and energy-saving district heating system in the last couple years.

District heating also has its disadvantages:

- It is a large-scale system which means the construction and maintenance of the system is more expensive than the installation of per building production units.
- The large system has a significant heat loss and needs high pumping energy. Compared to the natural gas supply the construction and maintenance costs are higher.
- It is a complex system due to which disconnecting individual households is rather difficult. Because of the adjustment of heat water, the capacity is not always available in its full. (Bauman, 2012)

2.2.3. The recognition of environmental-conscious practice: district heating eco-label

The district heating eco-label was introduced by the Magyar Távhőszolgáltatók Szakmai Szövetsége (MaTáSzSz) [Professional Association of Hungarian District Heat Suppliers] in August 2017 with the aim of making the environmental effect of district heating evident for the consumers, just like in the case of the household appliances. Based on the admirable utilization of renewable energy and the consequent decrease in CO₂ emission the AVAS and downtown district heating system got the district heating eco-label. The label classifies the given system in terms of energy-efficiency, use of green energy and CO₂ emission. A district heating system is considered good if it works efficiently and in a cost-saving manner. A growing proportion of the Hungarian district heating systems is like that now. Via the developments that started in the last couple years and go on even today the district heat supplier made a significant progress toward increasing energy-efficiency and the utilization ratio of renewable energy sources.

The aim of the further developments is to have the whole Hungarian district heating industry provide competitive and reliable services with an increasing ratio of environment-friendly, renewable energy in its mix (Magyar Távhőszolgáltatók Szakmai Szövetsége, 2017).

2.2.4. Energy strategy at district heating suppliers – the example of MIHŐ Ltd.

Miskolc aims to become a sustainable, healthy and viable city. In relation to these goals a Sustainable Energy Action Plan has been formulated in which the city targeted a 40% decrease in CO₂ emission by 2030.

The city is committed to the use of renewable energy. In line with this goal the local district heating supplier carried out significant innovative developments in the last couple years. The MIHŐ Miskolc District Heating Ltd is the second largest heat supplier of the country (Cselédes, 2009). Thinking in terms of environmental awareness nowadays most of its energy mix contains energy from the deponent gas naturally occurring at the recultivated dumpsite, from wood chip biomass and from geothermal energy coming from 2300m deep

extraction wells. In terms of the economy at large, the Miskolc district heating system contributes to the geothermal energy targets of the National Energy Strategy by almost 10 percent.

More than 155 000 people reside in Miskolc. The number of households supplied by the district heating supplier is more than 31 000, more than 50 percent of which are targeted by the developments. By using these innovations 25 719 200 m³ of natural gas is substituted and the emission is lessened by 48 812 metric tons of CO₂.

Further utilization of renewable energy is planned by increasing the number of district heating consumers. Since 2015 several large consumers joined the district heating network, which increased the number of buildings heated by green and renewable energy. Consequently, the city's rate of harmful emission decreased. For the Miskolc district heating system these new additions to the district heating network equal the extra heat quantity necessary to supply a small or middle-sized town.

In Miskolc, 55% of the total amount of energy used for district heating is from renewable (mainly geothermal) sources. With the successive investments, Hungary's largest geothermal energy capacity system was delivered. The project provides an amount of 800-1100 TJ of energy from geothermal energy of 12,000 TJ to be achieved by 2020 in the National Energy Strategy.

Beside the environmental benefits we shall also mention the environmental awareness-raising effect of the use of green energy on the local community. High investment costs appear as a negative factor in renewable energy use, but these investments are given a high priority in line with the National Energy Strategy. The service is provided at a price set by the energy agency for consumers, so high investment costs are not enforced in the fees. The sources of the investments are partly financed by the European Union. It may be an incentive for district heat suppliers that they will have to use their profit above the profit cap (2% of gross book value) to invest in increasing the energy efficiency or reducing the cost of district heating.

By looking at the numbers it is without doubt that the efforts toward environmental conscious energy supply have a remarkable role in social innovation. In recognition of its innovative pursuit, the city and the Miskolc District Heating Ltd won the Üzleti Élet a Környezetért Díj [Businesses for the Environment Prize] (2011), the Innovációs Nagydíj Kiemelt Elismerése [Innovation Grand Prix – Outstanding Achievement] (2011), the Észak-magyarországi Regionális Innovációs Nagydíj [North-Hungarian Innovation Grand Prix] (2010) and the Magyar Minőség Háza Díj [Hungarian Quality Prize] (2010). In 2017 the company received the eco-label as well.

2.3. The “service” provided by district heating suppliers, contribution to the consumers’ safety of wealth

The biggest change in the economic environment of district heat suppliers had been based on Act LIV. of 2013 on the enforcement of utility cost reduction, and as a result the price of the district heating system has been reduced by 20 per cent, despite the highest utility expenditure of families is still that of the district heating fee. Therefore the consumers are very sensitive to any changes and questions regarding district heating. Because of the different financial situation of families within one residential building, the needs of the families are different too. Due to the specificities of the technology, i.e. technological reasons such differences in needs cannot be met. Payment in equal amounts applied at several suppliers is a great help for the consumers. In this case consumers are allowed to pay the full amount in 11 equal parts and, after providing data on the actual consumption, make a balancing payment in the 12th month of supply. As the costs of district heating become predictable, the special arrangement contributes to the solvency of the consumers.

3. Financial sources of social innovation in the field of district heating

In my previous research in which I analyzed the financial situation and profitability of Hungarian district heating suppliers (7 companies) in a defined period of time (5 years) I concluded that there are significant differences between the economic specificities of companies working in the same industrial sector (Süveges, 2018). Currently in Hungary district heating (in some forms) is located in 94 different municipalities, thus the surveyed 7 suppliers represent 60% of the total amount of sold energy, which can be considered as a representative sample. There was a big difference in the profitability of entities (the relative standard deviation of ROE indicators was 50% -250%, the relative standard deviation of the ROA indicators was 48% -150%, the relative standard deviation of the return on capital ratios was 200-250%), but there was also a high dispersion of the leverage ratios (the relative standard deviation of the indicators was 150% -670%). This result is not supported though if we take a look at the financial sources of social innovation. The Hungarian district heating suppliers have two primary financial sources of innovation:

1. internal resources, that is the amount above acquisition limit
2. support by the European Union, Cohesion Funds, external resources

3.1. The amount above acquisition limit as internal resource

The Decree of the Minister of National Development no. 50/2011 (September 30) on determining the price of district heat that is sold to district heating suppliers and the charge of district heating supply provided for household consumers and specially treated institutions determined a limit on acquisition for the district heating suppliers. Accordingly, the financial results coming from activities falling under the jurisdiction of the Act on district heating and listed in the audited annual financial statement of the district heating supplier cannot exceed the arithmetical product of gross asset value of the financial statement considered at the time of pricing and profit, which is defined at 2% by the Decree. The Decree also says that “the supplier shall spend the profit above acquisition limit on development resulting in a more efficient district heat production or supply or on developments that reduce costs” (Decree 50/2011. IX.30 by the Ministry for Innovation and Technology). Accordingly, profit exceeding 2% of the gross asset value shall become a committed reserve and used for energy efficiency development within two years.

3.2. Tenders for district heat producers and/or district heat suppliers as definite external resources

In the previous periods several calls for tenders have been issued for district heat producers and suppliers. These tenders are summarized in the following chart:

Table 3: Calls for tender for the Hungarian district heat producers and suppliers

Nr.	KEOP-2012-5.4.0	KEHOP-5.3.1-17	KEHOP-5.3.2-17
Name of the tender	Modernization of the district heating sector by the potential of using renewable energy sources	Energetic modernization of the district heating sector	Meeting the local heating and cooling needs by using renewables
Year	2012	2017	2017
Amount at disposal (billion HUF)	6,6	25,07	19,89
Extent of support	100%	100%	1
Minimum amount of support (Mill. HUF)	10	83	20
Maximum amount of support (Mill. HUF)	1000	3125	2500
Supported activity	Energetic modernization of the district heating supply	Developments resulting in the decrease of primary energy usage and of the emission of greenhouse gases	Development of district heating/district cooling supply and district heating production system using renewable energy sources, increase of current capacities

Source: Author's own presentation

In addition to the tenders mentioned above, another two special so called retrospective, call for tenders have also been published: in 2013 the KEOP-5.4.0/12-2013 Retrospective and in 2015 the KEOP-5.4.0/12-2015 Retrospective with a total sum of 10,4 billion forint. Retrospective tenders were ex-post financial support given for developments, carried out from internal resources and meeting the technical, energetic and environmental requirements of the tender. It means that the support was not given for new developments but for older ones. In 2013 the support was 50% and in 2015 100 %.

4. Conclusion

The current study aimed to emphasize the importance of sustainable energy utilization among the pillars of energy policy. It describes the most important EU guidelines and the respective Hungarian Energy Strategy.

Besides the relationship between aims, methods and their financial aspects in the case of social innovations in the field of district, the identification of external and internal resources by which social innovations may be carried out has also been presented

In addition to the obligation to spend profit exceeding the 2% of gross asset value on development increasing energy efficiency, the sector welcomed pre-financing and ex-post tenders financing energy efficiency developments as external resources.

Further research focuses on the competitiveness of the energy industry with a special emphasis on the stimulating and regulatory measures leading to more cost-effective, sustainable energy consumption.

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THE EFFECT OF PRODUCTS ATTRIBUTES CUSTOMER SATISFACTION ON BRAND LOYALTY IN THE ELECTRONIC APPLIANCES INDUSTRY: CASE OF JORDAN

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Abstract: *This paper shows an analysis of products attributes, customer satisfaction and brand loyalty in the electronic appliances sector. The main goal of the research is to determine the influence of a product's physical and service-related attributes on customer satisfaction and eventually on brand loyalty. In particular, the objective of this paper is to answer the following question: if the attributes of a product influence in a customer satisfaction and in that way on a brand's loyalty? We defined Customer satisfaction as the satisfaction of customers with any products. Therefore, the satisfaction was examined through a survey using questionnaires. The population included all customers of two of the branches from SmartBuy (one of the biggest companies in the IT sector in Jordan) in Amman. We designed the questionnaire and distributed it randomly to the respondents in two branches of the mentioned company. The questionnaire conducted was distributed to 150 respondents; we excluded 43 questionnaires from the analysis due to the incomplete data. So (107) questionnaires were valid for the study. The results show a correlation between the main factors, but more extensive researches in terms of the number of companies used in sampling must be conducted to verify this relation due to more factors mostly statistically insignificant.*

Keywords: Products Attributes, Customer Satisfaction, Jordan, Brand Loyalty, IT Management.

JEL classification: M30, M15.

1. Introduction

Organizations are becoming more aware of the importance of customer satisfaction influence on brand loyalty and therefore businesses are focusing on improving this relation in order to regulate consumer's purchasing intentions and behaviours and upholding growth in vastly competitive environments.

The concept "brand loyalty" hugely affects the performance of businesses and reimbursements for any business; this research tries to achieve the following objectives:

- Explore the factors that may influence the brand loyalty.
- Analyse the relationship between the two variables customer's satisfaction and brand loyalty.
- Study the role of a product's attributes and its influence on customer satisfaction and brand loyalty.

We can see the customer satisfaction as "one of the most crucial ways to make the marketing performance considerable and sustained" (Piercy, 1995:25) and one of the main

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concepts in marketing (Fournier and Glick, 1999). In the earlier literature, the models created to study brand loyalty and customer satisfaction frequently studied consumers buying packaged goods but not durable goods and so we aim through this research to explore the experiences of customer satisfaction's and brand loyalty in the situation of (SmartBuy) a company in electronic appliances sector in Amman.

The attributes of a product have a huge impact on the satisfaction of its consumers and on their intentions to buy; therefore, the approach of an organization towards managing those attributes will either affect the mission of the organization positively or negatively, satisfaction wise and creating loyalty towards the brand wise.

2. Literature Review

As Abdul Ghafoor and Asad-ur (2014) mentioned, the customer satisfaction and brand loyalty has become a phenomenon and considered a dynamic matter for which the business firms are so sensitive. The key reason behind its development is to see the relation between customer satisfaction and brand loyalty and this is because the customer with more loyalty to the firm and as longer as the customer is retained, will conclude to increase the selling and profits the business might generate as well (Edvardsson et al., 2002). The more benefits of enhanced brand loyalty could happen from holding current customers alongside attracting to bring new customers. These benefits might, in turn, score in increasing the sales and profitability for the organizations well. Firstly, the loyal customers are more likely to stick to their sellers or service providers on a long turn and at the same time they are more likely to cross-purchase (Oliver, 1997; Reichheld, 1996). Secondly, previous studies commonly support the assumption that say attracting new customers is always more expensive than holding the current existing ones (Blattberg and Deighton, 1996; Fites, 1996).

Therefore, this paper explores the brand-loyalty relations at more enduring levels of a product's physical and value-related attributes that participants experience in conditions outside the classrooms and laboratory.

2.1. Customer Satisfaction

Kotler defined customer satisfaction as "The feelings of a person's pleasure or disappointment came from comparing the outcome (or a product's perceived performance) in relation to his or her expectations" (Kotler, 2000:101). Alongside, Oliver defines customer satisfaction as a "decision resulting after a consumption experience - it is the consumer's decision that a product providing (or is provided) an enjoyable level of consumption-related fulfilment "(Oliver, 1997). Moreover, customer satisfaction can be defined as consumer ratings of specific attributes (Gómez et al., 2004). Many scholars studied the effect of other factors on the satisfaction of the consumer such as the service efficiency and company's marketing policies, but in our study we'll omit such factors and only focus on the product's attributes and their influence on customer satisfaction and subsequently the brand loyalty of consumers (Pakurár et al., 2019).

2.2. Brand Loyalty

Kotler et al. (2000) defined the brand loyalty as the faithfulness that a consumer shows towards a specific brand; and this customer showed this faithfulness through repeating the purchases over time and also other positive behaviours may come such as telling other people about this brand (word of mouth advocacy), regardless of the pressures and promotions generated by the other competing brands; (Kotler, et al., 2008). And one of the popular definitions for the brand loyalty is "a function of psychological processes that biased behavioural response (purchase) expressed with time by some decision-making unit with respect to one or more alternative brands out of a set of brands" (Jacoby 1971: 25). Brand

loyalty depends on the customer's arousing responses to the usage of a product or service which is defined as customer satisfaction (Oliver, 1981). Hence, brand loyalty can be one of the main ways the consumers can express their satisfaction with the product or service received (Delgado-Ballester and Munuera-Aleman 2001). The previous definitions illustrate that brand loyalty is expressed through many factors; most importantly repeated purchases of a specific brand while being offered a huge evoked set of competing or alternative brands.

2.3. Customer Satisfaction and Brand Loyalty

General satisfaction was combined as a main factor of purchase intentions with reference to brand loyalty (Spreng et al., 1996). From Bloemer and Kasper's (1995) perspective, customer loyalty is one of the significant trails with which customer satisfaction about product or services received is expressed. Thus, this proves that the previous studies of scholars indicate the important role that customer's satisfaction plays in increasing purchase and repurchase intentions of a customer and how it is considered to be an important determinant of customer loyalty towards a brand. The more frequent a consumer purchases a specific brand, the more satisfied he/she is with the product itself and the attributes it has to offer to them.

2.4. Theoretical Framework

Most studies confirm the positive relationship between products attributes and brand loyalty with job satisfaction playing a mediating effect. For example, Dhurup, et al (2014) found that significant positive relationships between packaging, price, brand awareness and brand loyalty, which means tacit their significant predictive effect on brand loyalty. Another example is the study of the scholars Shaharudin, et al (2010). showed that the brand loyalty influenced positively from the extrinsic attribute or in other words, product quality based on the perceived quality.

Finally, the theoretical framework below is to ascertain the previous relations mentioned before under a company in the electronic appliances industry in Jordan, moreover, this study will investigate two variables of product's attributes that are: physical attributes of a product and value-related attributes of a product, therefore, according to what we mentioned before we developed the following framework:

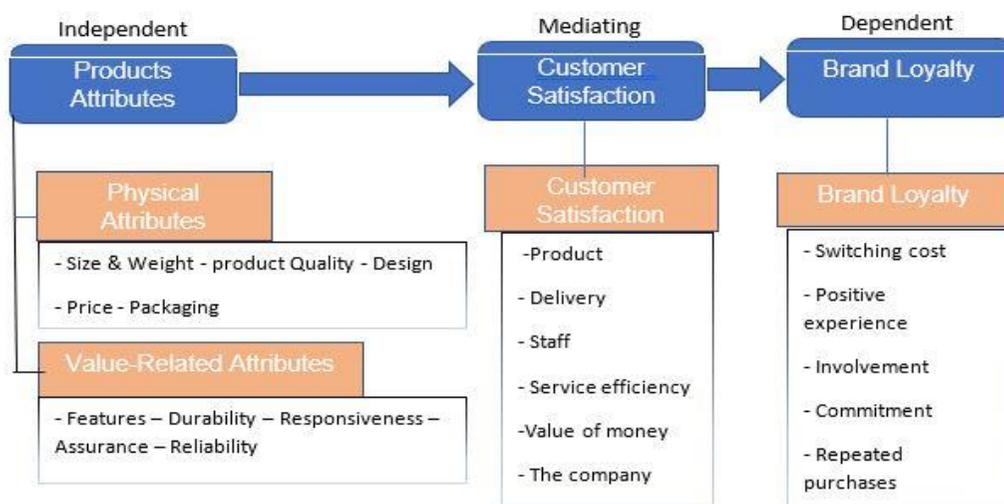


Figure 1: Proposed framework
Source: Authors own development

2.5. Research Hypothesis

In this paper, we will examine how the independent variables influence the dependent variable. Hence, brand loyalty is the dependent variable, and the product's attributes are the independent variable.

Product's attributes and brand loyalty main hypothesis:

H 1: There is significant relationship between product's attributes and brand loyalty

H1a: There is a significant relationship between a product's physical attributes and brand loyalty.

H1b: There is a significant relationship between a product's value attributes and brand loyalty.

Customer' satisfaction with brand loyalty

The hypothesis to be tested for the relationship between customer's satisfaction and building brand loyalty goes as follow:

H2: Customer's satisfaction has a mediating relationship between a product's attributes and brand loyalty.

3. Methodology

The main goal of this paper is to use a research methodology that discourses the hypothesis stated above and to answer the research questions about products attributes, stressing the dimension of physical product attributes, value-related product attributes and customer satisfaction in specific electronic appliances (SmartBuy) headquarters in Amman city, Jordan. The methodology used to collect information on customer satisfaction in these stores is through a questionnaire completed on a sample of general user population.

3.1. Research Population and Sample

The population included all the individual customers of two of the branches from (SmartBuy) in Amman. We designed the questionnaire and used simple random sampling for 150 respondents from the two selected branches.

3.2. Validity

To check the questionnaire for clarification and to present a solid research questionnaire, a deep review that went through and covered all the research structure was carefully completed by academic reviewers from the university of Jordan in Amman and took their comments and opinions, to make the required modifications, moreover, some of the paragraphs and questions were redesigned.

3.3. Reliability

The stability of the instrument of study calculated using the equation of internal consistency by test Cronbach's alpha as you can see in table 2 below, higher than (60%) for all variables and identification of generally of the study of Cronbach alpha found which is acceptable level in the research and studies, and gives reliability coefficient between (0.95 – 0.98) for the questionnaire as a whole as you can see in Table 1.

Table 1: Cronbach's alpha for the study fields

Variables	Cronbach Alpha
Product attributes	0.95
Customer satisfaction	0.98
Brand loyalty	0.96
All Questions	0.98

Source: Authors own computation

3.4. Data Collection Method

After distributing 150 surveys to respondents, only 107 of them were returned completed, and we excluded the other 43 questionnaires from the analysis because they did not have a fully completed information. So, with the (107) valid questionnaires for analysis the response rate was (71.3%), and the demographic characteristics of the sample of the study can be seen in Table 2 below.

Table 2: The sample demographic Characteristics

	Sample	
	Frequency	Ratio %
The gender		
(Male)	64.5	69
(Female)	35.5	38
Total	107	100.0
Age		
Less than 20 years	3	2.8
20- less than 30 years	83	77.6
30- less than 40 years	19	17.8
40- less than 50 years	2	1.9
More than 50 years	-	-
Total	107	100.0

Source: Authors own computation

We applied a quantitative research approach and used SPSS to make sure that the related issues are covered and investigated in a comprehensive way. We relied on data collection of the questionnaire and the study sample responses; the questionnaire consists of two sections as follow:

- First part: Demographic variables concerning the customers and we used closed-ended questions (gender, age, average income/month and marital status).
- Second part: Contained 3 parts:
 - Independent variable: Product's attributes which consisted of the following elements: (physical product attributes, value related attributes)
 - Mediating variable: Customer satisfaction which consisted of the following elements: (product, Delivery, staff, service efficiency, And value of money.)
 - Dependent variable: Brand loyalty which consisted of the following elements: (switching cost, positive past-experience and trust, commitment, and repeated purchases.)

It measures the attributes of products and the consumer's satisfaction dimensions and brand loyalty levels by using the five-point Likert-scale (Strongly agree = 5, Agree =4, Neither agree nor disagree =3, Disagree = 2, Strongly disagree =1). We adapted the questions of the

questionnaire from previous studies and as you can see the distribution of items relating to each variable has been given in Table 3.

Table 3: Detail of Items

Customer Satisfaction	Items number	Previous Studies
Product	4 Items	(Ali, F., et al.2015; Cronin, et al 2000)
Staff	4 Items	
Delivery	3 Items	
Service Efficiency	6 Items	
Value of Money	4 Items	
Brand Loyalty		
Switching Cost	4 Items	(Zeithaml, et al 1996; Sirdeshmukh, et al 2002)
Positive Past-experience and Trust	3 Items	
Commitment	1 Item	
Involvement	2 Items	
Repeated Purchases	1 Item	
Product's Attributes		
Physical attributes	9 Items	(Ekinici, et al 2001; Madanoglu et al 2004)
Value Attributes	5 Items	

Source: Authors own computation

4. Data Analysis and Findings

According to the research purpose and framework mentioned and presented before, in this paper we will show a description of the results of the statistical analysis collected through the questionnaires to answer the research questions and research hypothesis, hence, the analysis contains a description of the Means and Standard Deviations of the research questions, in addition, Simple Regression, and ANOVA test was used.

4.1. Descriptive Analysis of Study Variables

Level of importance (Products attributes)

As you can see in table (4) we used four dimensions (arithmetic mean, standard deviation, item importance and importance level).

Table 4: Arithmetic mean, SD, item importance and importance level of products attributes

No	Dimension	Mean	Std. Deviation	Item Importance	Importance Level
1	Physical Product Attributes	3.11	1.04	1	Medium
2	Value Related Attributes	2.95	1.03	2	Medium
Total of Products A		3.03	1.01		Medium

Source: Authors own computation

As we can notice clearly from Table 4 the mean of this dimension (Products attributes), was among (3.11– 2.95), meanwhile all dimension got a total mean of (3.03), which is considered as a level of Medium. And this tells us that most of the respondents have agreed on the importance of products attributes.

Both Dimensions (Product attributes) and (Value attributes) were considered as a level of Medium importance for the respondents.

Level of importance (Customer satisfaction)

In Table 5 below, we used also the same four dimensions (arithmetic mean, standard deviation, item importance and importance level).

Table 5: Arithmetic mean, SD, item importance and Importance level of customer satisfaction

No	Dimension	Mean	Std. Deviation	Item Importance	Importance Level
2	Delivery	3.58	1.16	1	Medium
3	Staff	3.48	1.16	2	Medium
5	Value of money	3.44	1.22	3	Medium
1	Product	3.35	1.24	4	Medium
4	Service efficiency	3.18	1.05	5	Medium
Total		3.41	1.11		Medium

Source: Authors own computation

As you can see in table 5 above that the mean of this dimension (Customer satisfaction) was between (3.58 – 3.18) and that showed how the customer satisfaction is important for the respondents.

The rank of the importance of the dimensions you can see above the (Delivery) got the maximum mean with (3.58), and (Service efficiency) came last it got a mean (3.18) and standard deviation (1.05) level of Medium.

This explains that customer Satisfaction with all dimensions are important for Customers.

Level of importance (Brand loyalty)

In Table 6 as before we used the dimension's arithmetic mean, standard deviation, item importance and importance level.

Table 6: Arithmetic mean, SD, item importance and importance level of Brand loyalty

No	Dimension	Mean	Std. Deviation	Item Importance	Importance Level
2	Positive Past-experience and Trust	3.39	1.13	1	Medium
4	Repeated Purchases	3.33	1.26	2	Medium
3	Commitment	3.31	1.19	3	Medium
1	Switching Cost	3.16	1.16	4	Medium
Total		3.30	1.11		Medium

Source: Authors own computation

This table shows that on the other previous variable (Brand loyalty) the respondents agreed that it is important for them, as can be seen in the results, that the mean of this variable was among (3.39 - 3.16) and that is considered as the level of Medium. Moreover, all the Dimensions of brand loyalty got a mean of more than 3 and that confirmed again how important these dimensions are for the respondents, as shown in the results above.

4.2. Hypothesis Testing

4.2.1. Product's attributes and brand loyalty

H1: *There is a relationship between Product's Attributes (physical product attributes, value related attributes) and brand loyalty*

Multiple regression analysis was used to test this hypothesis to ensure the relationship between Products Attributes (product attributes, value attributes) and brand loyalty as you can see in Table 7.

Table 7: Multiple Regressions

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.928 ^a	.860	.858	.42051		
a. Predictors: (Constant), Value Attributes, Product Attributes						
ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	113.346	2	56.673	320.490	.000 ^a
	Residual	18.391	104	.177		
	Total	131.737	106			
a. Predictors: (Constant), Value Attributes, Product Attributes						
b. Dependent Variable: Brand Loyalty						
Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.226	.130		1.745	.084
	Physical_Product_Attributes	1.102	.096	1.027	11.488	.000
	Value_Attributes	-.119-	.097	-.110-	-1.232-	.221
a. Dependent Variable: Brand_Loyalty						

Source: Authors own computation

It is clear in Table 7 above, that the variable Products Attributes has a strong impact on the brand loyalty as you can notice the results of R and R square, and at the same time the results showed that (Physical Product Attributes) have a stronger relationship with brand loyalty, reaching (t) calculated values (11.488), which value significant at the level of ($\alpha \geq 0.05$), meanwhile (Value related Attributes) have not shown any relationship between (Value related Attributes) and brand loyalty (t) values was (-1.232) which value not significant at the level of ($\alpha \geq 0.05$).

But in general and taking into account all the results above we can confirm the hypothesis that there is a relationship between Product's Attributes and brand loyalty.

H1a: *There is relationship between a product's physical attributes and brand loyalty.*

To test this hypothesis, the researcher uses the simple regression analysis to ensure the relationship between product's physical attributes and brand loyalty, as you see in Table 8.

Table 8: The Simple regression to check the relationship between a product's physical attributes and brand loyalty

R	R2	B	Beta	F Value	DF	Sig
0.926	0.858	0.994	0.926	636.326	106	0.00*

Source: Authors own computation

From Table 8 it is observed that there is a relationship between a product's physical attributes and brand loyalty. R value was (0.926), whereas the R2 was (0.858). That means that the (85.8%) of product's physical attributes influence brand loyalty. As Beta was (0.926) Assuring F value was (636.326) and it is significant at level ($\alpha \leq 0.05$), that assures confirmed the hypothesis, and Figure 2 shows that:

Normal P-P Plot of Regression Standardized Residual

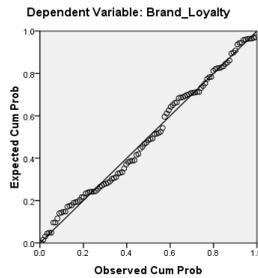


Figure 2: Regression plot to show the relationship between a product's physical attributes and brand loyalty.

Source: Authors own computation

H1b: *There is relationship between a product's value attributes and brand loyalty.*

Simple regression analysis used to test this hypothesis to ensure the relationship between product's value attributes and brand loyalty as shown in Table 9.

Table 9: Simple regression to ensure the relationship between a product's Value attributes and brand loyalty

R	R2	B	Beta	F Value	DF	Sig
0.827	0.683	0.897	0.827	226.480	106	0.00*

Source: Authors own computation

From table (9) it is observed that there is a relationship between a product's value attributes and brand loyalty. The R was 0.827, whereas the R2 was 0.683. That means 68.3% of product's value attributes effects brand loyalty. Also, Beta came with 0.827 with F value 226.480 and it is significant at level $\alpha \leq 0.05$, and that confirms the hypothesis but showed that product's Value attributes has less effect on brand loyalty than physical attributes.

Normal P-P Plot of Regression Standardized Residual

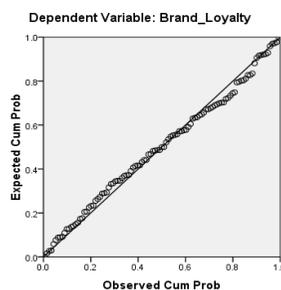


Figure 3: Simple regression plot to show the relationship between a product's value attributes and brand loyalty.

Source: Authors own computation

4.2.2. Customer's satisfaction and brand loyalty

The hypothesis to be tested for the relationship between customer satisfaction and building brand loyalty goes as follow:

H2: *Customer's satisfaction has mediating relationship between a product's attributes and brand loyalty.*

To test this hypothesis, the researcher uses the regression test and select the R2 Change and (F) change value as shown in Table 10.

Table 10: Multiple regressions

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df 1	df2	Sig. F Change
1	.905 ^a	.818	.815	.47960	.818	234.361	2	104	.000
a. Predictors: (Constant), Total of Customer Satisfaction, Total Products Attributes									
ANOVA ^b									
Model		Sum of Squares	df	Mean Square	F	Sig.			
1	Regression	107.815	2	53.907	234.361	.000 ^a			
	Residual	23.922	104	.230					
	Total	131.737	106						
a. Predictors: (Constant), Total of Customer Satisfaction, Total Products Attributes									
b. Dependent Variable: Brand Loyalty									
Coefficients ^a									
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.			
		B	Std. Error	Beta					
1	(Constant)	.166	.154		1.078	.283			
	Total_Products_Attributes	.784	.085	.711	9.193	.000			
	Total_of_Customer_Satisfaction	.221	.077	.221	2.860	.005			
a. Dependent Variable: Brand Loyalty									

Source: Authors own computation

5. Discussion

The results show that customer's satisfaction has a mediating relationship between product's attributes and brand loyalty, and this confirms how important customer satisfaction is for the company's relationship with its customer and for keeping their loyalty. In addition, we can notice from the results that R2 change was (81.8%), (F) change was (234.361) and its significant at (0.05) level. This means that the percentage of customer satisfaction reached 81.8% based on the relationship between brand loyalty and products attributes. Finally, and based on the significant relationships between the variables showed during the analyses, we can reassure that all the hypothesis we mentioned earlier can be confirmed (see Table 11).

Table 11: Hypothesis Test

H1	<i>There is relationship between product's attributes and brand loyalty</i>	Supported
H1a	<i>There is relationship between a product's physical attributes and brand loyalty.</i>	Supported
H1b	<i>There is relationship between a product's value attributes and brand loyalty.</i>	Supported
H2	<i>Customer's satisfaction has mediating relationship between a product's Attributes and brand loyalty.</i>	Supported

Source: Authors own computation

6. Conclusion

The results of the data analysis that we have conducted suggest that there is a correlation between the variables in the situation of the company that we chose in the electronic appliances industry sector in Jordan; however more extensive researches in terms of the number of companies used in sampling must be conducted to verify this relation.

Some of our findings are that customer satisfaction does not seem to be a basic variable as it is composed of several partial elements that affect the firm and its performance in a complex manner. Additionally, the influence of this element is reflected on different time interludes, so the complexity of their effect can best be observed over a long period of time. This finding is considered to be very important as the main aim for the firms is usually to maintain long-term performance and this can only be done by ensuring future satisfaction of the customers as well as the immediate one.

The relationship between customer satisfaction and brand loyalty is widely tested and proven by many studies, and our study reassured the strong relationship between the variables previously mentioned. Therefore, brand loyalty is very important and essential for a firm's survival in the long-run.

For companies to fulfil their customer's needs and to ensure their current and long-run satisfactions, firms have to offer differentiated high-quality products as well as differentiated service offerings. And so, further research needs to be done to examine all possible factors affecting long-term customer's satisfaction which will eventually turn into brand loyalty and try to do more practical researches in a different type of organizations and different sectors.

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Bio-note

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SOCIAL ACCOUNTING - SOURCE OF RELEVANT INFORMATION IN ASSESSING THE SOCIAL RESPONSIBILITY OF THE ORGANIZATION

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Abstract: *At present, accounting efforts have been extended to assessing the state of society and social programs, not for the satisfaction of any individual or group, but for the application of evaluation procedures in the allocation of resources to a better social welfare. In this paper we try to find the answer to the following questions: Is the accounting information relevant to the social responsibility assessment of the organization? What are the tools for measuring the degree of social responsibility achievement and what are the sources of information on which they are based? What are the characteristics and benefits of knowing and applying social accounting?*

The product provided by accounting is the information and, like any other product, in order to be accepted by customers, it must meet certain qualitative criteria, certain standards to satisfy the needs of the beneficiaries. Social objectives are less common in organizations' strategies, but with a rapid growth trend over the last decade, especially for large and medium-sized organizations, with these objectives referring to: pollution control, cooperation with authorities, waging and working conditions of employees, customer satisfaction through the quality, durability, flexibility and price of the products and services offered, making suppliers permanent in return for offering quality products at affordable prices and upon the agreed deadlines.

Keywords: corporate social responsibility, accounting information, social accounting, social accounting matrix.

JEL classification: M14, M40, M41.

1. Introduction

Only the operations that affect the patrimony and which can be expressed in a monetary form are included in the scope of the accounting subject matter. This use of currency, as a way of estimation, has the advantage of allowing the combination of the value of very different, and thus Heterogeneous, objects into a homogeneous entirety of the organization (Barney, 1991).

But this use of the currency as a measure of value is not free of inconveniences and from here devolve the limits for the accounting information system. First of all, the currency is not a measure of universal value, so it will be difficult and delicate to give a monetary expression to some events that are not related to the non-commercial, which are consequently ignored by accounting.

But in the not too far future, under the incidence of applying this principle the elements that are not and do not seem to be quantifiable will have to be included, elements such as (Carroll, 1979):

- the competence of the employees;
- the social performance of the organization;
- the managerial capacity of its leaders;
- the creativity capacity of a research team;
- the social climate;
- the degree of pollution;
- the quality of the environment in which the organization operates;
- the intensity of the restrictions imposed by the environment, etc.

In economically developed countries, we speak more and more about human resources accounting and environmental accounting, which requires changes in the structure of synthetic accounting documents (Gallardo and Sánchez, 2013).

2. Research Methodology

The paper has been prepared based on a qualitative research consisting in the study, synthesis and observation of some papers and studies from the literature, for finding and analyzing instruments that measure the degree of social responsibility achievement as well as models of off-balance sheet boards according to national, international and European references.

In order to achieve the objective of qualitative research, we studied the literature to determine tools for analyzing social elements in the work of organizations, namely the social accounting matrix, which is both a source of relevant information in assessing the social responsibility of the organization and an important tool for analyzing and substantiating micro- and macroeconomic policy decisions.

3. Brief Literature Review

In the history of social accounting, an important role has been played by its inventor, Stone, a British economist, winner of the Nobel Prize for Economics in 1984, who is also linked to the difficult history of developing and improving the national account system (NAS).

The first reflections of Stone and his collaborators on social accounting date back to the 1960s, when national accounting recorded some progress, largely due to Stone. At the same time, statistically evolved countries had gained some experience in compiling accurate and reliable calculations for the main macroeconomic aggregates and building national accounts, even if they were made independently and were not organized or coordinated within an economic system. This economic system is a philosophy on which models of quantitative description of activities taking place in a national economy are based. From the point of view of defining the Social accounting matrix in the field of accounting, in his work "*Social Accounting Matrices and SAM-based Multiplier Analysis*" (Round, 2014) draws up a presentation of the accounts in a matrix that exposes in a detailed way the relationships between a resource and usage table and sector accounts. The main characteristic of this matrix is the flexibility, in terms of the possibility of detailing or aggregating, according to the purposes of the analysis, to the available data sources, to the statistical potential of the person building it.

Neculai Tabara in his paper entitled "Modernizing accounting and management control. News and perspectives"(2006), has brought together all the elements of great interest for a social responsibility management structure within an organization can be grouped in a non-financial board.

Regarding the issue approached, the literature offers few theoretical and practical studies related to social accounting regarding the emergence, role, necessity, organization and management in specific environments, instruments of realization, with the mention that these studies concern the private sector.

4. The tools for measuring the degree of social responsibility achievement

Matrix presentation is a tool that allows the full exploitation of the reliability of the system of national accounts. Thus, for example, it will be possible to analyze in more detail the existing relations between its social and economic aspects, and that in order to reach a social accounting matrix.

The social accounting matrix is defined as a presentation of accounts within a matrix that exposes in a detailed way the relationships between a resource and usage table and sectorial accounts (Zadek, 2005). The main feature of this matrix is flexibility, in terms of the possibility of detailing or aggregating, depending on the purposes of the analysis, by the available data sources, by the statistical potential of the one building it. Of course, it is possible to develop only aggregates that characterize sectorial functions or aggregates. This flexibility makes this matrix very useful in the context of national accounting. At the same time, a social accounting matrix integrates revenue and expenditure flows and input - output tables at a mesoeconomic level, it can serve as a model for estimating a wide variety of accounts. The social accounting matrix method is particularly useful when one wishes to reconcile detailed information on international production and trade, with primary data coming from, for example, an enquiry on labor force, family budgets, or on investments by activity branches. Integrating a larger volume of primary data allows analyzing and tracking a larger number of aspects regarding the correlation relationships that they can generate. Also, the social accounting matrix allows us to know the existing relationships between the use of labor force and the distribution of income and the objectives of a macroeconomic perspective such as gross domestic product (GDP), balance of payments, price stability, etc.

The social accounting matrix also provides a coherent data frame for overall balance models regarding the economy entirety, which has detailed classifications of various agents, especially by branch of activity, by types of labor force and by subgroups of households. At the same time, the basic scheme of the system of national accounts is faithfully reflected by the social accounting matrix, the latter perfectly combining macroeconomic and microeconomic theory.

The matrix of social accounting can be found in both the input-output table, and also the flows that allow detailed analysis of the process of distribution, redistribution and use of revenues, this facility being particularly important in the context of elaborating and substantiating macroeconomic policies regarding economic restructuring or some analyses of the mechanisms of formation and maintenance of national wealth and population welfare. As a sole accounting system, in which there are the transactions between agents, explicitly followed, the social accounting matrix has an additional recourse as the basis for a macro and micro level by the simple analysis and modeling of the multiplier.

However, there are some important limitations that should be kept in mind by a new analyst. First of all, there is no final social accounting matrix because the framework is flexibly established around a standard basic structure. Detailed classifications should be chosen depending on criteria specific to each country in order to best reflect the organization. In order to be truly informative, the revenue record must be represented around the system, relatively detailed and complete, otherwise the content of the information will be constrained by the weakest in the chain. Secondly, it should be emphasized that it is not always possible to use data sets without a specific requirement to adjust the value.

For example, because the national accounts are not always compiled, the enquiry data of the organizations, it is not easy to rationalize the two data sources, and this does not apply only to the expenses of the organizations, but also to their incomes. An important role in the history of social accounting was played by its inventor Stone (1962), who is also linked to the history full of difficulties in elaborating and perfecting the system of national accounts (SNA). The first reflections of Stone (1962) and his collaborators on social accounting date back to the 60's, when national accounting recorded some progress, largely due to Stone himself. The social accounting matrix allows the development of models, including the general balance, to analyze the various correlations between training, distribution, redistribution of government revenues and expenditures by different sectors of activity. Insofar as it is detailed and by including the transactions with the rest of the world, thus surpassing the situation of a closed economic system, the possibility of the integration of a national economy into the international circuit appears. There is a close connection between social accounting and financial accounting, even if they have a different construction.

An accounting matrix must present a coherent structure of social accounting data. The requirement of such an approach is that totals rows are equal to total columns to provide a useful way of keeping control of all social phenomena - economic, while avoiding any form of duplication. A matrix of social accounts forms the basis for almost all disaggregated economic models. Expenses are listed in matrix columns and receipts are recorded in rows. In order for the sum of all expenses made by a certain account (or sub-account) to be equal to the total amount of receipts or income for the corresponding account, the amounts of rows must be equal to the column sums in the corresponding account.

For example, the total revenue of a given organization must be equal to exactly the total expenditure of the same organization. Therefore, analysts interested in understanding how the production structure influences the distribution of revenue can get useful information by studying a social accounting matrix. The classification of expenditures incurred and earnings is essential if the social accounting matrix is used as a diagnostic tool to better understand the socio-economic interdependencies, the structure of an economy, or as a conceptual framework. A social accounting matrix should meet the following requirements:

- reproduce properly the socio-economic and structural (production) structure in society and economy;
- to distinguish relatively homogeneous groups and categories;
- be composed of socio-economic groups that are recognized and useful for socio-economic analysis (ie specific target groups should be identified);
- be based on relatively stable characteristics that can be measured relatively easily and reliably;
- can be derived from existing data sources.

There is no single (standard) classification or disaggregation scheme and data organization for a social accounting matrix.

5. The social accounting of the organization

Social Accounting is a structure that organizes all flows of an economic system, expressed as values, in a coherent manner and an accounting perspective. The starting point in the construction of social accounting is the elementary flows representing the transactions that are carried out between the elementary economic subjects of an economic system (Man and Ciurea, 2016). Considering that the fundamental purpose of national accounting is represented by the coherent description of a reasonable number of macroeconomic aggregates, a particularly important aspect refers to the aggregation of elementary flows up

to the desired aggregation level. In order to achieve this operation, attention shifts from flows to subjects. These subjects are grouped based on two fundamental criteria, thus (Man and Macris, 2015):

- who is the subject in question;
- why the subject does carry out a particular transaction.

This way it is possible to obtain groups in which the subjects are regrouped in institutional sectors based on the importance of various subjects from the legal and social point of view, as well as in functions that refer to the behavior of these institutions when they are producing, consuming or saving. All these methods of analysis can be combined with each other in a matrix in which, conventionally, the lines represent the inputs, and the columns represent the outputs (Smita, 2012). There is a close link between social accounting and financial accounting, even if they are differently built. The matrix formula on which social accounting is based allows for establishing links between the financial and non-financial accounts of institutional sectors and their presentation in a single picture of the national economy at a given time. Environmental protection measures include all those activities initiated to comply with the organization's internal and external regulations, whether voluntary or mandatory. At the same time, the social accounting fulfils the following characteristics according to Figure 1:

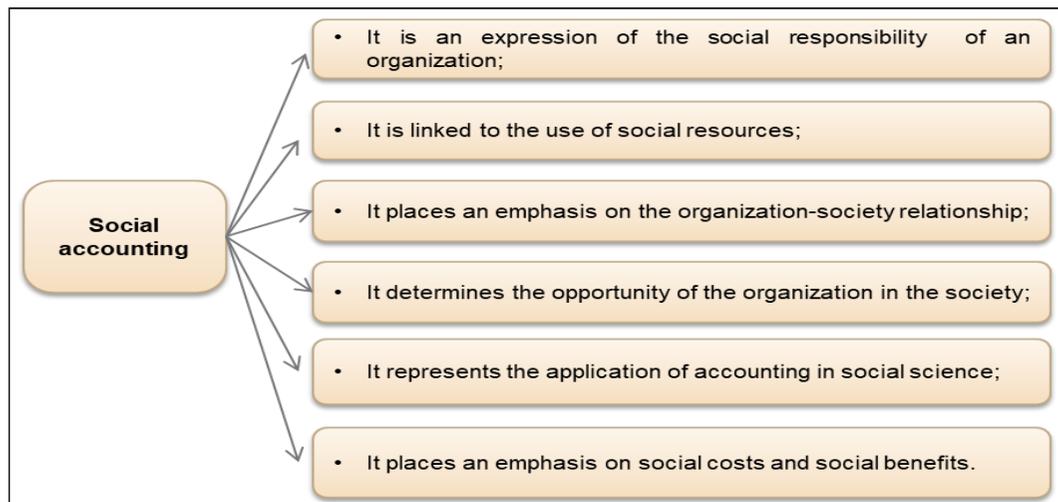


Figure 1. Features of social accounting

Source: Adapted and processed after Lantos, (2001:3-9).

The criterion of this compliance is not of an economic nature but has the effect of preventing or reducing the environmental impact. Social costs are the main strategic goal of a corporate social responsibility (CSR) plan within an organization (Beurden and Gössling, 2015). They occur when communities are compensated for damage caused by organizations. All the elements of great interest for a social responsibility management structure within an organization can be grouped in the form of a non-financial board (Table 1):

Table 1: Off-balance sheet board

Field	Topics to be assessed as social and environmental performance	Elements to be assessed as immaterial capital
Clients	Quality of products or services; Security of products; Ecology of non-polluting, recyclable, biodegradable products, etc.; Ethics of business development; Ethics of sales policy.	Customer loyalty; Profitability of customers; Financial health and solvency of customers; Durability of competitive advantage and weariness of supply.
Employees	Fundamental human rights Compliance with employee rights requirements; Working conditions; Remuneration of employees; Hygiene and security, etc.	Employee loyalty; Employee competence; Motivation; The internal climate and the spirit of cooperation among the employees; Sharing organizational values, etc.
Shareholders	The new management; Their social and environmental responsibility.	Stability, understanding, long-term shareholders' mood, etc.
Suppliers	Ethics of business relations; Ethics of purchasing policy.	Quality of products and services; Durability of suppliers; Adapting suppliers' portfolio to needs.
Structure		Research and development expenses; The science of developing patents, trademarks; The information system; The organization performance; Reliability, quality and flexibility of the means of production
Civil society	Patronage; Subsidies for NGOs; Subsidies for programs meant for the population; Subsidies for educational programs, etc.	Stability of the social environment; The performance of infrastructure etc.

Source: Tabara N., 2006

However, they also refer to externalities where costs have not yet been internalized (damage to the health of neighbouring communities, to agricultural crops or waters, etc.). Costs involving stakeholders fall within the same framework of social costs. They include, in addition to costs for the local community, other costs related to: investors, creditors, regulators, customers, government organizations or NGOs, etc. By maintaining good relationships with these stakeholders, an organization avoids undesirable environmental conflicts. Building a green organization image helps to bring about economic welfare opportunities. The limits of conventional accounting principles, practices and abilities have been extended to such areas for social disclosure and attestation of social programs measures.

The concept of social accounting has gained special importance as a result of high-level industrialization, which brought prosperity to society as well as many problems (Schaltegger and Burritt, 2000). This has forced the corporate sector, with huge amounts of funds, to invest substantial sums in social activities in order to overcome the negative effects of industrialization.

6. Conclusion

In conclusion, the social accounting matrix represents an important tool of macroeconomic analysis and, at the same time, of substantiation of micro- and macroeconomic policy decisions. We can argue that, when an organization decides to invest in a certain community, to conclude contracts with business partners, to hire employees, they make promises, based on which the interested parties change their expectations and life plans. In this case, the management of that organization should take their interests into account in the same way that it considers the interests of the shareholders.

From the perspective of business ethics, determining whether the interests of one or the other should prevail within a business organization would represent the solution to a problem. In the context of business ethics, the concept of an interested party can be extended to all those who are affected, one way or another, by the activity of an organization. From this perspective, the parties interested in business organizations activity are not just the owners, the shareholders, but also the employees, the business partners, even the members of the community in which the organization operates. Business is a socio-economic activity that attracts contributions from society, therefore its goal should be the wellbeing of society and should have a responsibility to solve many social problems (Torugsa, O'Donohue and Hecker, 2012).

Currently, on an increase in technological, economic, cultural and social awareness, accounting not only fulfils its function of managing the owners of organizations, but also fulfils its social function. Changing media and social parameters has prompted organizations to account for and report information regarding the fulfilment of social responsibilities.

So far, accounting efforts have been extended to assessing the state of society and social programs, not for the satisfaction of any individual or group, but for the application of evaluation procedures in the allocation of resources to better social welfare. Social accounting deals with analyzing and studying the accounting practice of those activities of an organization. The concept of the socialist model of society, civil rights movements, environmental protection groups and ecological conservation groups, the increase of the awareness of the society towards the social contribution of the organizations contributed to the increase in the importance of social accounting. Social accounting, also known as social responsibility, socio-economic accounting, social reporting and social audit, aims at measuring and informing the general public about the social assistance activities undertaken by the entity and their effects on society (Barnett, 2007). Social accounting should also be seen as a cost-benefit ratio for engaging in the field of pollution control, safety and health, and other beneficial societal requirements, and generally be able to measure the impact of the entity on the environment.

The contribution of the article is that it can be considered as a starting point for possible future ways for wider research to measure relevant information from social accounting because we can consider accounting information to be relevant to assessing the organization's social responsibility and tools for measuring degree the achievement of social responsibility and the sources of information on which it is based is given by social accounting itself.

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Bio-note

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BUSINESS ETHICS COURSE ON STUDENT MORAL REASONING

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Abstract: *This research aims to identify and measure the effectiveness of business ethics courses on student Moral Reasoning. In-depth interview and a pilot test were conducted to examine the understandability of the experimental instrument. Quasi-experimental methods were conducted on students who join a business ethics course. One hundred twenty-two participants were valid from the manipulation check of pre-test and post-test. Paired T-Test was used to test the score between pre-test and post-test. Moral reasoning was measured using a defining issue test (DIT) to categorise High and Low Moral Reasoning on Participants. The result shows no difference in moral reasoning score between pre-test and post-test on a student who joins the business ethics course. This study finds that student moral reasoning does not improve by joining a business ethics course at university. These results imply that we should evaluate and re-examine the business ethics course syllabus for future research.*

Keywords: Business Ethics Course, Quasi-Experimental, Moral Reasoning.

JEL classification: I23, P36.

1. Introduction

Unethical individual behaviour will be triggered based on personal moral knowledge. Individuals with higher moral knowledge will be able to deal with situations that expose an ethical dilemma. Gross (2009) and Tett (2009) found that corporate greed is the source of the problem of the global crisis in the world, they suggest that the success and sustainability of business lie at the foundation named ethics. Several prior research found the role of ethical value on unethical behaviour (see research Abdolmohamadi and Sultan, 2002; Ponemon and College, 1992; Xu and Ziegenfuss, 2008; Uddin and Gillet, 2002 and Rafinda, Arofah, Mustafa, Ompusunggu, 2015).

Managers believe that the workplace is not the right place for someone to learn about ethics; even the manager hopes that someone becomes an employee already have a robust ethical value (Sigurjonsson, 2014). It is implied that business school has the responsibility in educating the attitude of prospective employees for a company is not just merely transferring business knowledge, but have been able to reach the stage of internalisation of ethical values that are taught.

The business school has become an institution that has been mentioned many times by some parties that transfer of knowledge about ethical leadership (Alsop, 2007; Etzioni, 2002; Hosmer, 1988). One of the goals of business ethics courses at the undergraduate level business administration and master of business administration is to develop moral consciousness, and problem-solving that require ethical considerations (Acevedo, 2013).

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Moral consciousness is the individual's ability to identify a case requiring an ethical decision or not. This study aims to identify the impact of a business ethics course on the internalisation of moral values by measure the moral reasoning level on the college student. This research is necessary because of several factors: 1) Various organizations believe that the internalization of ethical understanding will not occur in the workplace, but occurs when a person is studying, 2) The business school is one of the institutions that are responsible for extending values of ethics to students on campus, 3) Student ethics values must be taught at the university through business ethics course. This research aimed to test the effectiveness of business ethics courses for students by measuring their moral reasoning.

2. Literature review

2.1. Business Ethics Education

The decisions taken on the managerial level in an organisation is often a decision that requires ethical considerations. Manager's ability to consider ethical business decisions becomes mandatory in an organisation. Formal education in the field of ethics shows that it can raise awareness of ethics, ethical judgment and commitment to ethical values, especially in adolescents who have the ability to logic and make decisions that require action novelty (Duska, 1991; Glenn, 1992; James & Cohen, 2004; Piper, Gentile, & Parks, 1993; Rest, 1988; Stead & Miller, 1988; Williams & Dewett, 2005).

Business ethics education is the responsibility of the business school. The integration of ethics on business school course needs to be done continuously (Suryaningrum, Subroto, Sutrisno & Rahman, 2015). This is because people get ethics education only on academic education, and cannot obtain when he is already at the workplace. International accreditation agency such as AACSB (Association to Advance Collegiate School of Business) suggests business schools to pay attention to the subject of business ethics curriculum. However, there is no minimum standards and raw publication for governing how the curriculum should be on business ethics. This makes the curriculum of business ethics courses have variation in implementation and have various impact on student perception on ethical value.

2.2. Moral Reasoning

There are several stages of individuals to act ethically according to Cohen and Bennie (2006) and Jones and Washington (1991). First, the individual must have an ethical awareness to identify whether it faces a situation associated with ethical issues. The second stage is that the individual will make an ethical judgment(s) on the situation and determine the various alternative measures to be taken to deal with the situation. The third stage, an individual will choose alternative actions and deal with the situation. The fourth stage, the individual decides behaviour for what has to be considered from the beginning to the end to confront the ethical dilemma situation.

John Dewey, in Kohlberg (1975), postulates three levels of moral development. First, pre-moral in this case motivated individuals' behaviour as a biological and social impulse. Second, the conventional in this case when the individual behaves in the hope of the acceptance to a particular group or community. Third, post-moral, this stage individual will behave ethically automatically because of their self-belief. Jean Piaget (1932), in Kohlberg (1975), develops the definition of level moral reasoning with interviews and observations method to children. Piaget defines three levels of moral reasoning. The first is the stage of pre-moral when the individual does not have a sense of want to obey the rules. Second, the heteronomous is when the individual obeys the regulation because the individual abides by the rules and penalties are subject to the authority of the rule. Third, the autonomous is the individual behaviour based on reciprocity obtained for their behaviour.

Kohlberg in 1955 defined and validated the longitudinal and cross-cultural moral reasoning levels developed by Dewey and Piaget (Kohlberg, 1975). Kohlberg resulted from research in 1955 classifying the underlying reasoning of individuals to an event considered ethical or unethical; there are three levels. The first level is the pre-conventional when individuals behave ethically because they do not want to be punished and to benefit themselves for such behaviour. The second level is called conventional that is when individuals behave ethically because of the desire social acceptance in the environment or an agreement established norm within a group. The third level is called post-conventional when individuals behave ethically because it follows the principle of personal ethics and follows the universally accepted principle. The higher the individual's understanding of the moral, the higher the moral level is. Individuals who have high moral understanding will tend to behave ethically as it may consider various alternative actions (ethical-takes) when faced with situations that pose ethical dilemmas.

Rest developed the instrument of Defining Issues Test (DIT) to measure the level of individual moral reasoning. DIT already used in a wide variety of research on examining the life and experience of a college student (Patricia & Mayhew, 2002). Rest (1999) tested the validity of the two types of Defining Issues Test (DIT). DIT2 has two differences compared to DIT1. The first difference, the fewer number of cases in the form of: 1) "famine", 2) "reporter", 3) "school board", 4) "cancer", and 5) "demonstration". Secondly, DIT1 measured using p-score while DIT2 measured using N2. Results from these studies indicate that DIT2 has higher validity than DIT1. Although the results showed more valid, in conclusion, DIT2 instrument still needs verification because it is only tested with 200 students and disproportionate when compared with DIT1 that has been used by hundreds of researchers with a total sample of approximately 500,000 participants. This study used DIT1 because it has validating by hundreds of researchers in measuring the individual's moral reasoning.

2.3. Business Ethics Education Relationship with Moral Reasoning

This study aims to identify the impact of business ethics courses taught in Indonesia on student moral reasoning. As one of the mandatory courses in Indonesia Business school, business ethics should have a good impact on student. Business ethics courses become the foundation for business schools to educate students on moral values. This makes the business ethics course has a vital role in giving the necessary foundation of ethical values for the prospective employee. Moral reasoning of students will be measured before getting a business ethics course and after getting a business ethics course. During the course, students acquire knowledge about business ethics, with a comprehensive knowledge of business ethics and study the various cases relating to business ethics. It can strengthen the understanding of ethical values in business. Someone who has a broader knowledge of business ethics will have a better ability to do moral reasoning when facing a situation that arises ethical dilemmas. Based on these arguments, the hypothesis is:

H1: *Students moral reasoning will improve after participating in business ethics courses on campus.*

3. Research Method

3.1. Data collection

The data in this study was taken by using the experimental method. Participants were students who take a business ethics course at several universities in Indonesia. Universities in Purwokerto, Malang, Makassar and Kupang were collected for sampling in this study. The four cities can be the student representative on the three Indonesian regions (West, Central and East), public and private University and big, medium and small University, so the target population in this study were students throughout Indonesia.

3.2. Business Ethics Education

Business ethics education is the manipulation variable. Participants are given a business ethics course for one semester and then analysed the impact of the course on the level of moral reasoning. Participants are students majoring in accounting who are taking a business ethics course at the college. Even the lecturer is different between four institutions, but they are using the same syllabus and reference book when conducting the business ethics course.

3.3. Moral Reasoning

Participants were asked to choose action on a case and asked to rank the reasons for these choices. Six scenarios provided by Rest (1986) to measure the level of moral reasoning of individuals, there are: 1) Heinz and the Drugs, 2) the Escaped Prisoner, 3) the Newspaper, 4) The Doctor's Dilemma, 5) Webster and 6) Student Take Over, This study uses three scenarios as a short form of DIT1. This is done with the hope of not reducing the concentration of the participants during the experiment. This is because, according to Rest (1986) the time required to complete the six scenarios about 30-40 minutes, while the short form requires 20-30 minutes. Time is too long to worry about the task to reduce the level of concentration and seriousness of the participant. Three scenarios were developed by Rest (1986) which is short forms of DIT 1, there are: 1) Heinz and the Drugs, 2) the Escaped Prisoner, and 3) the Newspaper. A 12 statement followed each scenario as a participant consideration in the decision on the scenario. Participant asks to choose between three actions in one case, and they have to give the reason why choose that option. For example, Heinz and the Drugs case ask the participant to choose between steal the drug or not. The Heinz is the person that his wife was dying because of a rare disease, and one pharmacy already found the cure. The pharmacy wants to get a massive profit from the invention, so the pharmacy sells at a high price. Heinz cannot afford the prize, but the wife dying and need the drug immediately. Then participant ask which action Heinz should do? A) steal the drug, b) cannot decide, c) not steal the drug. After that participant has to rate 12 statement why they choose the action. DIT instrument developed by Rest (1986) can measure a person's proximity to the moral level to the third level (post-conventional). The closer to the third level shows the level of higher moral reasoning.

Participants were measured using the DIT level of moral reasoning based on p-score (post-conventional score). The short form has a correlation of 0.93 with an instrument that uses six scenarios DIT (Rest, 1986). It shows the short form has a similar property to the form of the six scenarios (Rest, 1986). The classification of participants to be included in the category of low level and high moral by using the median or middle value of the p-score set by Rest (1986) as the theoretical limit.

3.4. In-Depth Interview Research Instruments

In-depth interview was conducted in two stages. First, discussions were made with some of the lecturers who have been directly involved in field experiments and understand the experimental instrument validation techniques. Two senior lecturers who are experts on experimental and behavioural accounting were invited as the expertise of moral reasoning instrument. The second stage by sending the instrument to some lecturer of business ethics class that had been used as a sample. After the lecturers read and understood the instrument, the researchers and lecturers held an online conference using Skype. Five people were involved and provided input to the instrument to be used. Results of the discussion online and offline, there are several suggestions in the writing instrument that make it easier to understand by participants. Several manipulation checks added to ensure that participants understood the treatment according to the study.

3.5. Pilot Tests

Instruments that have been discussed in the in-depth interview get another input from several parties after conducted the pilot test. Participants of the pilot test were students of the Faculty of Economics and Business UNSOED. Thirty-five participants following the pilot test on the 60 minutes experiment. Participants were students who were voluntarily following the pilot testing of this research. Results of the pilot test were carried out, 32 participants successfully passed from an experiment by answer the manipulation check correctly, while 3 participants did not pass because of the wrong answer on the manipulation check. After participants finished filling the research instruments, researchers gave participants the opportunity to provide comments and suggestions related to the understanding given instrument. The discussion results showed that 92% of participants easily understood the questions in the instruments and there is some sentences correction to increase the understandability of the instrument.

3.6. Implementation of Experiments

Pre-test and Post-test were conducted to obtain the level of moral reasoning of students before and after the business ethics course. The pre-test was done before the first session of the course is conducted, and Post-test was done just before final exams performed. Students were asked to fill out the instrument defining issue test (DIT) by answering three cases that have been provided. We minimise the occurrence of threat that could arise due to differences in sampling time and classroom conditions; it has been agreed upon several matters related to sampling procedures research. Some things that concern guiding field experiment, there are: 1) the experiment must be carried out before 9 o'clock in the morning, 2) the room must be comfortable and silent, 3) participants must be in no hurry and follow experiments voluntarily and 4) participants are willing to follow the experiment post-test when they passed pre-test experiments.

Implementing pre-test experiments performed with different days depending on the condition of the commencement of lectures at any university in the research samples. Here is the tabulation of time and number of participants pre-test from four different locations:

Table 2: Participant distribution

City	Number of Participants	Experiment Schedule	Passed Pre-test
Purwokerto	37	08.00 – 09.00	34
Malang	35	08.30 – 09.30	32
Makasar	36	09.00 – 10.00	31
Kupang	28	08.00 – 09.00	25
Total Participants	136		122

Experimental stages in this study are: 1) Participants are invited to one day before the first meeting of the business ethics course, 2) Participants were not told that the experiment is related to the subject of business ethics, it is to reduce probability the social desirability bias, 3) Participants were asked in advance their willingness to participate in this study, 4) participants who are willing to participate, remain in class for 45-60 minutes, 5) Participants described the phases of the experiment to be carried out and assuredness confidentiality identity, 6) Participants given instrument with stationery to work on the case are provided in the instrument, 7) Participants fill and finish with a time of 30-45 minutes, 8) Participants fill out the agreement to follow the next session (session post-test) 9) Participants leave the room after all the experiments finished.

Post-test experiments carried out shortly before the end of term exams. Date of implementation varies because each university has a different academic calendar. Although it has a different date but is still among the experimental implementation in June and July 2018, the timing of the still performed before 09:00 am, so expect the condition between the test group is not too different in terms of stamina, environmental conditions and there is no noise. All participants who pass the stage pre-test 122 participants present and can take the test post-test implemented.

3.7. Experimental Procedure

This research experiment using a single group design with pre and post-test examination. Participants were students who are taking a business ethics course at the faculty of Economics and Business at several universities in Indonesia. This experiment is quasi-experimental. Participants get a manipulation in the form class of business ethics courses that have been taught by lecturers. Researchers will give moral reasoning instrument to the participants at the beginning of the course and will be measured again at the end of the course.

Table 1: Experimental Design Research

Pre-test	Manipulation	Post-test
O1	X	O2

3.8. Data analysis and hypothesis testing

The analysis was done by comparing the moral reasoning score between pre-test and post-test group. This analysis was examined to identify the effectiveness of business ethics education. The hypothesis supported when there is found a significant increase in the level of participant moral reasoning. However, if it does not differ significantly, then the hypothesis is not supported by the data.

4. Results and Discussion

Data from this study is obtained by performing a quasi-experimental. A quasi-experimental study was conducted by taking samples in the faculty of economics and business students who are taking a business ethics course at several universities in Indonesia. Four cities were targeted for a sampling of this research; there are Purwokerto, Malang, Makasar and Kupang. The towns became the four representatives of western Indonesia, Central and East.

4.1. Experiment results

Experiments were conducted in two sessions: pre-test and post-test with manipulation in the form of business ethics courses. The result of this experiment is the moral reasoning level of the student. The different paired t-test did the data analysis. Two experimental groups were compared to the value of moral reasoning before and after the manipulation is done. The statistic descriptive of the table of students' moral reasoning before and after manipulation is shown in Table 3.

Table 3: Statistic Descriptive

Statistic Descriptive	Pre-test	Post-test
Mean	39.52	39.39
Standard Error	0.31	0.26
Median	39.00	39.00
Mode	36.00	40.00
Standard Deviation	3.39	2.84
Sample Variance	11.47	8.08
Kurtosis	-1.31	-0.66
Skewness	0.23	0.31
Range	10.00	10.00
Minimum	35.00	35.00
Maximum	45.00	45.00
Sum	4822.00	4806.00
Count	122.00	122.00
Confidence Level(95,0%)	0.61	0.51

Analysis of paired t-test was performed to compare the test results and the value of DIT on pre-test post-test. Paired t-test was conducted as using a subject with two treatments (pre-test and post-test). Here are the results of Paired t-test:

Table 4: The result of Paired Samples T-Test

		Paired Differences					t	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	MR_1 - MR_2	.13115	2.54854	.23073	-.32565	.58795	.568	121	.571

The result of the paired t-test showed that the experimental results between pre-test with after-test showed no significant difference. It can be seen in the column Sig (2-tailed) of 0.571 which has a score above 0.05.

5. Conclusion

The purpose of this study is to verify the usefulness of a business ethics class at an Indonesia business school. The research sample who took from various cities in Indonesia that have been able to represent the target population. Samples from western Indonesia, central and eastern used to consider the heterogeneity of the research sample.

The analysis showed that there was no difference in the value of the level of moral reasoning before classes students business ethics, and after following a business ethics class. It shows that business ethics class has not been able to improve students' ability to perform moral reasoning. As the student does not improve their moral reasoning, it implies that they do not internalise how to think ethically. Moral reasoning explains the ability of the student to related the action into moral value. When they are not improving, it means, they still have the same moral reasoning value.

Based on the findings of this study need to be done a variety of advanced research that aims to re-examine the effects of business ethics classes on a variety of factors such as moral awareness and moral sensitivity. Besides that, it is necessary also to re-examine the material and syllabus used by the lecturer on classes. Another finding in this research is the score of p-value in this sample relatively already high, then that is might be another reason why moral reasoning did not improve during the study.

Recommendations based on the findings of this study are to evaluate the need for educational institutions on the content of business ethics courses that are taught to students. For other agencies, with proven that moral reasoning ability students do not improve through business ethics education, it should be noted that the recipient agencies college graduate employees are still required training on ethics and morals that should be emphasised.

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HEALTH TOURISM IN TWO SPA RESORTS: BAILE FELIX (ROMANIA) AND BALARUC-LES-BAINS (FRANCE). A COMPARATIVE VIEW

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Abstract: *Health tourism is becoming more important as people are more concerned about their health. Meanwhile, traveling for healthcare and consuming medical tourism packages has increased significantly in the last decades. Moreover, many tourists travel abroad, with the intention of benefiting from quality treatments at lower prices, and sometimes benefiting from medical procedures which are unavailable in their home countries. Consequently, health and medical resorts make constant preparations to provide services conforming to the customers' standards. In this article we present in a comparative perspective the case of two health resorts, i.e. Baile Felix (Romania) and Baladuc-les-Bains (France). Both resorts benefit from rich natural resources, especially thermal waters, but also accommodation and treatment facilities enabling them to provide high quality medical and tourism services.*

Key words: health tourism; spa resort; Baile Felix; Baladuc-les-Bains.

JEL Classification: Z30; L83; I11; P36.

1. Introduction

Medical tourism is the activity of traveling in order to receive medical care. High costs, poor medical services, or long waiting times in one's home country, and, e.g., state-of-the-art technology, in the destination country, on the other hand, are the main drivers of medical tourism.

Medical tourism offers a special type of services, health being a priority; the range of options is narrow, balancing in favor of medical services in the event of constraints on those who make the choice (Oltean & Gabor, 2015).

The determinants of the demand for this type of tourism are motivation, income and leisure time. In the case of medical tourism, motivation is linked more to necessity, free time can be obtained depending on the severity of the health problem, while income remains the main inconvenience. Medical tourism is not seasonal because health problems do not take into account the season or the weather.

Perhaps even more than other types of tourism, in the case of medical tourism, the elasticity of demand is manifested in terms of revenue growth, but its inelasticity in rising prices, as well as the elasticity of demand for falling prices and its inelasticity in lowering revenues. This is explained by the nature of the motivation, which is not just relaxation, recovery or the purpose of the acquisition of goods, which is based on a much more pressing cause for the individual (Oltean & Gabor, 2015).

If, in general, the workforce involved in tourism requires a medium or even low qualification, in the case of tourism for medical purposes, it is necessary to have a highly qualified

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workforce, preferably in internationally recognized centers, in order to gain patient confidence.

This article is organized as follows: in the second section we present a theoretical overview on medical tourism, in the third section we present a comparative view on two medical tourism resorts, i.e. Baile Felix (Romania) and Balaruc-les-Bains (France), while in the last section we conclude.

2. Medical tourism: theoretical considerations

2.1. Characteristics of medical tourism

A medical trip is based on a particular procedure: the person seeking treatment abroad contacts a medical tourism provider. Usually, the patient is asked for a medical report, including the nature of the disease, the General Practitioner's diagnosis, various laboratory analyzes. Physicians consult with the patient about the necessary treatment and then discuss the approximate expenses, hospital choice and length of the stay. After signing certain arrangements, the patient receives a letter of recommendation for a medical visa to be obtained from the embassy in question. The patient moves to the destination country where a physician assigned by the healthcare provider takes care of accommodation, treatment and any other form of care.

Although medical tourism has existed for many years, i.e. since ancient Greece, following some opinions, see Oltean and Gabor (2015), its potential growth has been reduced by constraints on the capacity to support a limited number of tourists, as well as those related to infrastructure issues (including communications, water and sanitation, electricity, etc.) in developing countries.

Due to the fact that healthcare and health preservation have always been considered as basic concerns of people, we can see that a well-developed medical system that benefits from a solid medical infrastructure is not enough to fully meet the demand for medical services. Other important factors to be taken into consideration are: quality-price ratio, accessibility and convenience.

People who want to travel to receive medical care first and foremost follow the quality of the services and not their cost. Increased access to official reports on the safety and effectiveness of the medical services offered, as well as the questionnaires completed by patients about the quality of the services they received (both from the doctors and from the institutions as a whole) helped to improve patient awareness of the differences in the quality and safety of medical procedures (Voigt & Pforr, 2014).

Thus, a Joint Commission International (JCI) has been set up to effectively assess the quality and safety of medical services at an international level. Today, over 120 hospitals and medical centers around the world benefit from 1 or more JCI accreditations. Other organizations such as the International Society for Quality Care (ISQUA), the National Committee for Quality Assurance (NCQA), the International Organization for Standardization (ISO) and the European Society for Quality in Healthcare (ESQH) are increasingly involved in ensuring that people who choose to practice medical tourism will receive the highest quality medical care (Kelly, 2013). Also, the World Tourism Organization and European Travel Commission/UNWTO/ETC (2018) have an important contribution to a better understanding of the growing segment of wellness and medical tourism, providing a practical toolkit to assist various investors, decisions-maker and stakeholders with their planning and management of health-related tourism activities.

According to recent research in the field, the main reasons for increasing demand in medical tourism can be structured according to the following formula: demographic reasons (people live longer); medical reasons (an increase in the number of non-communicable diseases requiring the help of a specialist); economic reasons (higher incomes, health insurance,

sometimes even transferable from one country to another); social reasons (an increased willingness to travel) (Oltean & Gabor, 2015).

People travel to benefit from care services that are not available locally or simply because they would spend less than at home. On the other hand, it is equally important that all these increases in medical tourism supply are directly related to the liberalization of trade in services, increased cooperation between the public and private sectors, the spread of information on this issue globally kind of products and services and, most importantly, the successful combination of the tourism and health sectors.

2.2. Medical tourism – a global industry

Many countries offer discounts for medical tourism globally. However, some of the most popular international destinations are India, Thailand, Singapore, Turkey and Mexico. Countries such as Costa Rica, Panama, Brazil, Argentina are growing rapidly, not only because they can provide top medical expertise, but also because they are great destinations for enjoying a medical vacation.

African and Middle Eastern countries involved in medical tourism include Saudi Arabia, South Africa and Tunisia. Israel is an emerging medical tourism destination. In 2016, around 15,000 tourists traveled to the country for medical procedures, bringing a revenue of \$40 million. Jordan is a developing destination with a \$1 billion income in 2017, reaching about 250,000 patients in other countries. It is a destination for tourists from Palestine and Sudan (25,000), USA (1,800), United Kingdom (1,200) and Canada (400). In the Americas, the main destinations are Argentina, Brazil, Bolivia, Colombia, Costa Rica, Cuba, Dominican Republic, Guatemala, Mexico, Panama, Peru and Uruguay. Brazil is well known for plastic surgery, but for other types of procedures it is new on the global market. The first hospital accredited to JCI outside the US is Albert Einstein Jewish Hospital in Sao Paulo. Also, many Asian countries are destinations of medical tourism. In India, the medical tourism sector in this country will have an annual growth rate of 30%, to about \$95 billion, by 2020. The main treatments are bone marrow transplantation, cardiac bypass surgery, ophthalmology and orthopedics. India is known, in particular, for heart surgery, hip replacements and other advanced areas of medicine. China is a rapidly developing and desirable destination for people seeking treatment in a wide range of medical specialties including cardiology, neurology, orthopedics and others. Several private and state hospitals in large cities have established international departments. Many leading (well-known) hospitals offer treatments combining traditional Chinese medicine with Western medical technologies and techniques. China is leading in stem cell research, and hospitals offer the possibility of such treatments, while they are considered experimental or not yet approved in the country where tourists come from (Kelly, 2013).

In Europe, countries with active sectors in the field of medical tourism are Turkey, Cyprus, Germany, Hungary, Belgium, Lithuania, Malta, Poland, Portugal, Czech Republic, Slovakia, Spain and Ukraine. The Czech Republic built its medical tourism based on spas and medical care compatible with international standards (an example is Ostrava University Hospital). Germany is also a destination for patients who are looking for advanced medical technology, superior standards, safety and immediate care. Since joining the EU in 2004, Poland has become an important location for patients interested in cheap medical treatments (Kelly, 2013).

2.3. Wellness – a complementary form of health tourism

Wellness tourism is a form of leisure tourism that has undergone a significant development over the past decades, coupled with an increase in the number of occupational diseases caused by the stress of modern life. It combines relaxation with various forms of cure and

treatment and is practiced in balneomedical and climatic resorts with rich natural resources of cleanliness: mineral waters, thermal waters, muds.

Wellness tourism represents one of the most important tourist activities, with a relatively stable clientele and relatively longer average stays (12-30 days). It also contributes to increased average daily/tourist earnings (Voigt & Pforr, 2014).

The Master Plan for the Development of Wellness Tourism was developed by Détente Consultants and was published in November 2009 after about 4 months of research. The consultants visited 15 spa resorts where meetings were held with both public and private actors. The consultants also met with officials of the institutions and organizations involved in health tourism sector, such as the Ministry of Tourism and several stakeholders, trade unions, NGOs, governmental agencies etc, Ministerul Turismului, 2018).

The essential aspects that define the wellness tourism market in other countries are as follows: social wellness tourism is declining everywhere, but the average budget allocated by Europeans for disease prevention and health treatments is on the increase. This shows that short free treatment sessions develop (between 3-10 days and unsubsidised).

It was found that it is necessary to add the wellness component. For competitive wellness tourism, heritage-based medical centers were developed. These thermal cities are mainly developed in Central and Eastern Europe: Russia, Hungary, the Czech Republic. The thermal cities with an important historical heritage and using water as tourist attraction became famous thermal resorts: Amnéville in France, Baden-Baden, Karlovy Vary or Abano Terme (Ministry of Tourism, 2018).

Balneary tourism is, as a rule, a national and proximity tourism (for example, thalassotherapy develops in Tunisia and Morocco for a French clientele). Private investments were made in Tunisia, Hungary and Thailand, which gave them a decisive advance on the spa tourism market.

3. A study case: Baile Felix resort (Romania) and Balaruc-les-Bains resort (France)

3.1. History and localization

Băile Felix concentrates all the attributes of a real spa resort. The first historical mention oldest evidence of the baths, called *Termae Varadiensis* or Baile Oradiei, stems from 1221. The healing effect of the hot springs is mentioned in the writings of Romanian humanist Nicolaus Olahus. Later, between 1700 and 1721, Felix Heldrex discovered and used the Felix spring, whose name generalized with time to the whole resort. In 1731, the first analysis of the waters and their unique curative properties is made. At the World Exhibition in 1896, the waters of this resort were awarded the gold medal and honorary diploma. The healing quality of bathing waters is well known throughout Europe. In the eighteenth century balneal treatment began to take the form of organized tourism.

The first certification of the resort dates back to 1763 and contains a doctor's notes on the construction of a swimming pool. In 1771, the wooden basin has been turned into a stone basin, and bath cabins were attached. The first building was built between 1766 and 1772. In 1857 a treatment fee is introduced for people who have been sitting for more than four days. This is the starting point for spa tourism, even though the most spectacular developments would only begin 100 years later. The resort began to develop after the first modern drilling from the Main Spring in 1885.

Băile Felix is the largest spa resort in Romania. It is located in the northwestern part of Romania, at the meeting of the Crișuri Plain with the hills extending the Pădurea Craiului Mountains, at an altitude of 150 m. The settlement is administered as part of Sânmartin commune and is ranked second regarding the number of accommodation places in Romania after the Black Sea coast's resorts. The resort is located in Bihor County, 9 km from Oradea and at 22 km from the Romanian-Hungarian border, and is also interesting for

Hungarian tourists (Badulescu, Badulescu and Borma, 2014). The resort has a temperate continental climate, with mild winters and temperate summers with Mediterranean influence, ideal for balneary tourism.

Regarding Balaruc-les-Bains, its ancient name was Maimona (Mannonna, Mannonam). This name appears in the cartulary of Maguelone in 1130. In 1187, appear the indications Apud Aix, Ecclesiam of Aquis, Sancta Maria de Aquis, apud Aix in 1226, of Aquis in 1228 where vestiges of a thermal establishment were discovered in 1863 and 1865.

On December 11, 1886, Balaruc was divided into two communes; Balaruc-le-Vieux and Balaruc-les-Bains was born. From 1836 to 1886, population censuses count the population of the two sections which constitute the commune of Balaruc-les-Bains: Balaruc-le-Vieux and Balaruc-les-Bains. The census of 1856 explicitly distinguishes the section of Balaruc-les-Bains from that of Balaruc-le-Vieux with 376 inhabitants for the first against 285 for the second.

3.2. Thermal waters and treatments

The mineral waters of Băile Felix are mainly used in the form of baths, covered pools, valves or swimming pools, being used in diseases of the locomotive apparatus.

Due to the sedative climate, the resort is recommended for patients with poor neurovegetative reactivity. The sedative and relaxing-muscular effect of the thermal waters from Băile Felix are used for the elongation of the spine under the water. The effect of these elongations under the thermal water is superior to those performed at the elongation table. Scapulo-humeral periarthritis treated at Băile Felix has been very good if or associated with balneal treatment and decontracting galvanizations.

Băile Felix resort has a great experience in the treatment of degenerative and inflammatory rheumatism, experience based on a resort-specific methodology. The therapy of rheumatic diseases is quite complex. Along with the methods of pharmacotherapy, diet and rest in rheumatic diseases, it is almost always necessary to use therapeutic means capable of maintaining and subsequently restoring diminished functions as a result of disease progression. In this area, physiotherapy is an important part, as is the use of other methods of physical therapy, which in many cases is the basic therapeutic methodology.

A study was conducted on the patients here and it was found that in 90% of cases the treatment of degenerative rheumatism resulted in good accomplishments (Verhagen et al., 2015). Compared to other spa resorts, rheumatic inflammatory diseases found in Băile Felix the best conditions for treatment and recovery. The sedative climate of the resort, as well as the thermal water pools, are factors that enable efficient medical recovery of these forms.

The introduction of kinetherapeutic recovery methods in pools and in the controlled anti-inflammatory room gave superior results to classical methods of treatment. The beneficial effects of thermal waters are used for the following conditions: inflammatory rheumatic diseases (rheumatoid arthritis, ankylosing spondylitis); degenerative rheumatic diseases (cervical, dorsal and lumbar spondylosis, polyarthrosis); abnormal rheumatic diseases; post-traumatic conditions; peripheral neurological disorders; central neurological disorders; gynecological disorders; associated diseases (nutrition and metabolism diseases, endocrine diseases).

In Băile Felix, the tourists who come for treatment have the following treatment facilities: baths with thermal water in valleys and pools, kinetherapy with water in valves and pools, vertebral elongation in water and on the table; hydrotherapy, electrotherapy, paraffin wraps; inhalations and aerosols, medical recovery gyms; laboratories for tests and functional exploration; treatments with Gerovital and Aslavital, cosmetics cabinets with Gerovital products.

Patients accessing treatments have a wide range of therapeutic procedures using both natural cleansing factors and a number of artificial physical factors. The external cure with

thermal mineral water is the therapeutic use of bathing water at the bathtub or pool, to which the therapeutic procedures indicated by the treating physician are associated.

The mineral water bath acts on the body through mechanical, thermal and chemical factors. If mineral water is used in the pool, the movement of the body in water is itself a therapeutic factor with an effective role in complex treatment.

The thermal action of the mineral bath that has a calming effect on the pain, resorbable to the chronic and relaxing inflammation of the muscles, is conditioned by some water properties.

The indoor thermal mineral thermal bath uses the specially designed cuvette water. Mineral waters drunk at 39-40° C exert a soothing action on stomach movements, diminish gastric secretion and relieve digestive pain. The ingestion of mineral water in the form of hydromineral is done according to a schedule established by the physician.

The therapeutic sludge is applied in the form of general or partial packaging. For the body, sludge treatment is a general non-specific excitant and is a highly intense therapeutic procedure, individually prescribed in terms of temperature, frequency, duration of application, region.

The way of designing treatment bases allows the simultaneous development of different and complex procedures and treatments.

To prevent rheumatic, respiratory or cardiovascular disease, a prophylactic spa treatment can be followed in the resort, under the supervision of specialists.

The beneficial effects of thermal waters for certain conditions can be harmful and contra-indicated for other conditions. These conditions are: infectious-contagious diseases; STDs; malignant tumors; haemorrhages; psychological diseases.

Pindar, a Greek poet (518-438 BC) and later, in the 16th century, Rabelais, in *Gargantua*, mentions the waters of Balaruc. In 1579, Dr. Dortoman, first doctor of Henri IV, and professor at the University of Montpellier wrote a monograph on the waters and therapeutic indications of Balaruc-les-Bains.

In 1927, the city is classified as "Climate Station" which will officially confirm the benefits of the Mediterranean climate. In 1969, the municipality inaugurates a new spa, Athéna, that allows the treatment 3,700 patients per year.

In 1973, the station is classified as "New Tourist Station". In 1985, faced with the success of the baths and the growing number of guests, the city began the construction of a second establishment: Hesperides, which will open in July 1987.

In February 2015, the new spa is inaugurated. Since January 1, 2012, the Baths of Balaruc-les-Bains, formerly managed by communal management with financial autonomy, are managed by the Local Public Operating Company of Baths of Balaruc-les-Bains (SPLETH). The SPL has three public shareholders: the Balaruc-les-Bains Town Hall (85% of the capital), Thau Agglo (14%) and the Hérault General Council (1%). This public limited company aims at the management and the exploitation of the Baths and all the ancillary activities, annexes or complementary. SPLETH is the first SPL in France to be created to manage a thermal activity.

At Balaruc-les-Bains are treated rheumatic diseases, as degenerative joint diseases, as vertebral arthrosis and its consequences: cervicobrachial neuralgia, cruralgia, lumbosciatica; swelling vertebral hyperostosis; painful consequences of static vertebral disorders; peripheral degenerative disorders (coxarthrosis, gonarthrosis etc.); abarticular disorders: tendinitis and bursitis; inflammatory rheumatism - ankylosing spondylitis, polyarthritits, psoriatic arthritits; osteopathies - consequences of osteoporosis, endocrine osteopathies, Paget's disease, fibromyalgia; algodystrophies and post-traumatic osteoarticular sequelae.

3.3. Medical facilities

In the Băile Felix resort, there are 9 treatment bases. The Crișana-Poenița treatment base was built in 1981. The medical assistance is provided by five physiotherapy booths, two in the Poenița hotel, one of them being treated in Pell-Amar, one in the Crișana hotel and two in the proper base. The base has an Emergency Medical Office, a Functional Exploration Cabinet, and a laboratory. There are two outdoor swimming pools at the Crisana Hotel, one for adults and one for children.

The treatment base of the Felix Hotel is the most important one in the resort where there is the Spa "Policlinica nr.1", which has in operation since 1970. The treatment base serves the patients accommodated in the Felix and Lotus hotels, being connected to the two hotels through a covered passage. It is functional throughout the year, with a capacity of 1,000 patients per day in a single shift, in addition to those accommodated in Felix and Lotus hotels, serving ambulatory patients. The base has 12 specialized medical practices, 5 in Felix Hotel, 5 in Hotel Lotus, 2 in its own premises, profiled on balneo-physiotherapy and medical recovery, as well as doctor's offices: dentistry, ENT., gynecological and functional exploration services (ECG, EMG) as well as a sterilization area..

The Termal treatment base has been operating since 1970 for the patients staying in Termal and Nufărul hotels. The capacity is 500 patients only in the morning shift. Care is provided by 5 cabinets, being profiled on the Pell-Amar treatment. In the base there is an ECG laboratory and a section of the Bucharest Institute of Gerontology and Geriatrics. There is also a medical cosmetics cabinet with Gerovital. Swimming and heliotherapy can be practiced in Termal Hotel's uncovered pool.

The International Treatment Base was inaugurated in 1979, serving the patients of the International Hotel. Its capacity is 500 patients in the morning shift. For the provision of medical assistance, the base has 4 balneo-physiotherapy offices, of which 2 are specialized in Pell-Amar and Gerovital treatment. In fact, there is also a pediatric cabinet, a Gerovital medical cosmetics department, a specialized section for digestive diseases using Ulcosilvanic treatment, a cabinet for specialist consultations, and offices for functional explorations (endoscopies, surveys) belonging to the same basis.

The Mureș treatment base serves the patients accommodated in the hotel, operating since 1987, treating a maximum number of 800 patients per shift. It has five balneo-physiotherapy offices, as well as ophthalmological, dental, gynecological, functional exploration practices and a laboratory.

Treatment base Pavilion II is the oldest base in the resort, functioning since 1896. In 1966 it was modernized and renovated, serving the patients from several pavilions, and ambulatory patients. Its capacity is 500 patients in two shifts, with 3 balneo-physiotherapy cabins.

The Muncelul treatment base has been operating since 1972 for patients accommodated in the hotel of the same name. Base treatment capacity is 1,700 places. It has 19 offices for balneo-physiotherapy, a dental office, EKG, chemical laboratory, the treatment is done in two laps. The Padis treatment base belongs to the Padis hotel and was put into use in 1986. The capacity amounts to 2,050 places with 12 balneo-physiotherapy cabins.

The children's sanatorium with a capacity of 1,050 seats is a section of the children's sanatorium "1 Mai", providing balneo-physiotherapeutic and rehabilitation treatment in 30-day series, during which school classes with specialist teachers continue.

The clinical recovery hospital Băile Felix, put into use in 1987, is the property of the Ministry of Health. It has a capacity of 150 seats in one and two bed rooms. The hospital has a permanent program of clinical sanitation. The wards have dining rooms, bathrooms and furniture, being adapted for patients with locomotor and neo-motoric rheumatic deficiencies, each ward being provided with a warning and control panel. There is a balneo-physiotherapeutic and complex rehabilitation treatment with a wide range of therapeutic procedures and clinical services such as radiology, functional explorations,

clinical laboratory. The hospital also provides methodological assistance to the resort, as well as to the resorts in neighboring counties.

In Balaruc-les-Bains, the thermal baths cover 16,000 m², seven areas of care, including collective pools, individual treatments: baths and mud baths, showers, compresses and restrooms on 4 floors.

In shower, bath, steam or diffused in the form of thermal mud in a patented application bed, the Baths of Balaruc-les-Bains welcome the tourists in the best conditions for an effective cure, within an innovative establishment, evolving, and adapted to the new demands and challenges of health.

There have been done investments of 60 million euros (50% financing by Sète Agglopolie Méditerranée, Occitanie Region, Conseil Général de l'Hérault). In addition to the spa, the SPLETH manages an O'balia thermal spa, the dermo-cosmetic brand, a laundry, which represents 414 jobs.

As the largest employer in the Thau Basin, the company generates more than 1,000 direct and 2000 induced jobs, as well as significant economic spin-offs on the territory.

Dedicated to modern hydrotherapy, the new baths of Balaruc-les-Bains respond to new demands and new challenges in public health, putting at the heart of their approach, the technological evolution of thermal care in line with therapeutic education. In the ancient landscape, the waters of the pond were lower than today and made more visible and impacting two natural curiosities: the chasm of "the Vise" and "the Inversac" ("Inverse waters" of which there is no other case in France), underground and submarine resurgences of fresh water..

The thermal spring of Balaruc-les-Bains is a resurgence of the West fold, the karstic aquifer, which is the region's main source of drinking water and thermal water. The reservoir is more than 2000 meters deep and the thermal water naturally rises to the surface through geological faults.

Its composition is a mixture of very old (approximately 150.000 years) waters and newer waters (before 1950) from shallower reservoirs. Filtered over millennia in rocky layers that enrich them with trace elements, thermal waters naturally rise at roughly 7 to 9 meters per hour and are renewed over the centuries. They gush at a temperature of 50 °C, which is explained by the depth of the tank in which they are accumulated. At 2500 meters below the surface, the thermal water pool would reach 80 to 100 °C, which decreases as the water rises and mixes with newer waters.

The capacities of the two spa resorts are synthetized in the following table:

Table 1: Treatment capacities, Baile Felix vs. Balaruc-les-Bains

	Băile Felix	Balaruc-les-Bains
Number of treatment basis	9	7
Physiotherapy booths	5	5
Total capacity/day	5100 patients/day	4400 patients/day
Total number of balneo-physiotherapy cabins	51	112

Source: www.bailefelix.ro, www.balaruc-les-bains.com/

We can notice that Băile Felix spa has two more treatment bases than Balaruc-les-Bains, while the two spas have the same number of physiotherapy booths. Also, Băile Felix is, apparently, in a better position than Balaruc-les-Bains concerning the total daily capacity of balneary tourist reception, with 700 places, but the French spa has the double of balneo-physiotherapy cabins.

3.4. Accommodation facilities

The accommodation network of Băile Felix resort is made up of the main accommodation types: hotels, villas and pensions. Hotels within the resort range from one to four stars, depending on endowment, quality of service, reputation and location.

In the resort there are 12 hotels, of which 2 are one star hotels, 8 are two-star hotels and 2 are three-star hotels, and four category I, II and III pavilions. The accommodation capacity is 5900 places.

The accommodation units are the following: Crișana Hotel with a capacity of 213 places; Nufarul Hotel with a capacity of 150 places; Termal Hotel with a capacity of 300 places; Felix Hotel with a capacity of 291 places; Lotus Hotel with a capacity of 400 places; International Hotel with a capacity of 408 places; Mureș Hotel with a capacity of 650 places; Unirea Hotel with a capacity of 306 places; Someș Hotel with a capacity of 344 places; Poeneni Hotel with a capacity of 306 places; Padiș and Muncelul Hotels with a capacity of 1464, respectively 1040 places; four villas with a capacity of 508 places; private pensions.

In Balaruc-les-Bains, there are also 1-4 stars hotels, villas and private pensions. We will mention the most important hotels recommended in the resort. At 100 m from Balaruc-les-Bains thermal baths and beaches, the Best Western Hotel des Thermes, recently renovated, is ideally located in a peaceful setting to allow the guests to fully enjoy the benefits of the spa treatment or their vacation. Open since May 2017, the Hotel Opéralia les Pins welcomes its guests on the edge of the Charles De Gaulle Park and 350 m from the thermal baths. Hotel Restaurant Martinez downtown is situating accross the park and a few minutes away from the new spa and beaches. The hotel consists of 25 renovated rooms with Wifi, air conditioning, free private parking and a shaded garden with its patios. Neptune Hotel is situated in the heart of the Balaruc-les-Bains spa, both for a curist stay only or for a tourist circuit. It is a three-star hotel located about 500 meters from the New Thermal Establishment. Hotel Pension Bel Air Conveniently located close to the New Thermal Establishment, in the city center, the hotel is one of the first Balearic establishments. Azur Hotel is located in the city center, less than 300 meters from the thermal baths and beaches. The Central Hotel is located close to the thermal baths and the beach and in the heart of the village, so it enjoys a privileged location. Hotel du Golfe is located in the heart of the town, a few minutes from the thermal baths and beaches. Ibis Hotel Modeling and beauty center has an indoor heated pool and a steam room. The accommodation facilities are synthetized in the following table:

Table 2: Accommodation capacities, Baile Felix vs. Balaruc-les-Bains

	Băile Felix	Balaruc-les-Bains
Hotels	12	19
Private pensions	15	28
Total accommodation capacity (places)	5900	4400

Source: www.bailefelix.ro, www.balaruc-les-bains.com/

Concerning the accommodation facilities Balaruc-les-Bains spa has 7 more hotels than Băile Felix spa, but the ranking of hotels is similar in both spas. Additionally, the French spa is beeter placed than the Romanian one regarding the private pensions. Given the steady increase in the number of tourists who visit Balaruc-les-Bains, the French spa plans to increase the number of accommodations.

Despite this, one can notice that the total accommodation capacity of Băile Felix spa are 1.500 patients/day (higher than the Balaruc-les-Bains) and the hotels in the Romanian spa have a higher capacity than in the French one.

4. Conclusion

In both cases, the Romanian resort Băile Felix and the French resort Balaruc-les-Bains, to the natural resources are added the material base and technical infrastructure, in order to make them as useful as possible: sanatoriums, hospitals, clinics, medical offices, pools and swimming pools, recreational facilities and entertainment.

In parallel with the natural factors of treatments, spa resorts also have a wide range of therapeutic procedures that use physical factors. Complex treatment bases include kinesitherapy, electrotherapy, hydrotherapy, mechanotherapy, pneumotherapy and others. Prophylactic sessions in spa resorts are authentic methods, useful not only for the elderly or individuals with various affections, but also for young people, as more and more young people are now suffering from various cardiovascular diseases to stress-related illnesses. Prophylactic treatments tend to become the dominant type of spa activity and provide valuable support to human health.

Balneary tourism has had a distinct evolution from other forms of tourism due to natural resources, longer stays, and year-long interest. The length of the stay in this form of tourism is one of the highest: 14-21 days / year, sometimes even twice a year.

Balneary tourism and balneal medicine acquire new aspects every day, in parallel with the development and modernization of reception facilities for accommodation, public catering, treatment and recreation in resorts.

Both Băile Felix and Balaruc-les-Bains are resorts where health tourism can be traced back to the ancient times, when the properties of mineral waters were used for wellness and medical purpose.

The social aspect of spa tourism is exploited in both spas through programs for the elderly population, the main consumers of these services, the tariffs for the accommodation packages being different only by a small amount.

Based on several reports and studies we could assert that the image of the Balaruc-les-Bains balneary resort is better than the image of the Băile Felix balneary resort, the services provided being considered better, even if the quality of treatments is more or less equal (Office de Tourism, 2019; Baile Felix, 2019).

The rates for services not included in the social program packages do not differ significantly, if we take into account the fact that the minimum wage levels in the two countries do differ significantly, the French minimum wage being higher than the Romanian one.

Also, Balaruc-les-Bains is better known, due to the fact that the tradition was maintained, as well as a better publicity. Spa tourism is a key segment for all the spas included in this study. The local authorities are also involved in promoting spa tourism, through a range of social programs. Even though the minimum wages in France are significantly higher than in Romania, the tariffs do not differ much, which means that both hotel establishments offer equal quality standards that require similar investments in specific infrastructure. Thus, the Romanian resorts Băile Felix must take advantage of their strengths (such as an exceptional natural environment and the possibility to treat a wide range of diseases and medical conditions) in order to attract tourists from other countries and increase their notoriety in this domain.

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Bio-note

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WILL ROMANIA'S STRATEGY OF DEVELOPMENT AFFECT THE INTEGRATION OF THE SUSTAINABLE DEVELOPMENT IN THE ACCOUNTING OF ROMANIAN ENTITIES?

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Abstract: *This paper presents the influence that the sustainable development strategy has over the economic environment and especially over the national accounting model. Generally, the strategies of the sustainable development are carefully monitored and the periodic evaluation of them is a defining element. The processes involved in the evolution of the economic activities support the pylons of sustainable development and it integrates in this process the future request and offer. The elaboration of these strategies in the long run represents a primordial objective of the economic entities. The function of foresight from within the accounting model is used to showcase the strategy and to establish the mission that the economic entity has. By actively involving the accounting model, the internal and external information is contained into one single process. A different reason for which the accounting model is headed towards this direction is the fact that the objectives established in the long run contain at least one of the different environmental, social and economic factors, achieving at least one specific pylon of the sustainable development. Discussing assumed objectives, organizing programs and strategies of education and improvement in the field of sustainable development are key elements. These can be analyzed carefully within the entity and can guide the economic activity towards planning the strategy starting from its own accounting model. Respecting everything that has been mentioned, the integration of the sustainable development's aspects needs to complete the process of sustainable development specific to the economic entity's objectives and the accounting model.*

Keywords: Sustainable development, strategy, accounting model, objectives.

JEL classification: M40, M41, M49.

1. Introduction

The complete process of the sustainable development is composed of small structures headed towards promoting strong points and improving weak ones. The sustainable development represents all that has been debated after 1980 and it is characterized by the economic, social and environmental pylons (Platon, 1997). This being said, the sustainable development is present in various domains, especially the economic one (Smith, 1975). Through this paper we plan to highlight the way of interaction of the sustainable development strategy with the process of integrating the demands of sustainable development within the national accounting model. It has been proven that the structure and the way the current strategy acts target large horizons of time, referring in this case to 2020-2030. The sustainable development strategy has as points of interest domains like the cultural patrimony, the human capital by investing in qualified workforce and improving the quality of life, the equality between chances, the integration of vulnerable groups, fighting poverty and stopping migration. Due to the implication of the strategy having a ray of action

within so many domains, we realize the fact that this intervenes in the process of sustainable development but we do not consider it affects the integration of the accounting model during this process. Starting from the common purpose and the strategy of the sustainable development we concentrate on the domains of action. The development strategy print is noticed especially in the economic domain by highlighting actions and changes. Through this paper we plan to find and answer the impact that Romania's development strategy has when it comes to integrating the demands of sustainable development in the Romanian accounting model.

3. Brief Literature Review

The period of time proposed in the strategies of sustainable development gets the sustainability of the consumptions and the raw materials, the synchronizing of the economy with the environment and the social, as well as getting rid of the issues of the labor market going by creating an equitable report between the labor market and productivity (Gherasim, 2002). Setting up the managerial structure, the political stabilization and attracting more financing sources lead to the accomplishment of balance and its maintaining for a longer term (Popescu, 1999). The programs of regional development that Romania has used are a good start that deserves a continuity in use (Cramer, 2004). The comparison between presenting the strategy of sustainable development in European context and the strategy of national sustainable development focuses on domains like the cultural patrimony, the human capital by investing in qualified workforce and improving the quality of life, the equality between chances, the integration of the vulnerable groups, fighting poverty and stopping migration (Cămășoiu, 1994).

3.1. The importance of the strategic management regarding sustainable development in the macroeconomic context

In a macroeconomic context, the GDP (Gross domestic product) is the carefully monitored indicator even when its being watched through the perspective of sustainable development. The current tendency is the continuous promotion of the GDP growth, a growth that represents a high level of efficiency in investments, a grown productivity of the production factors and a careful monitoring of the consumption of the natural resources through the accounting management.

The annual rate of inflation represents a part of the objective of the sustainable economic growth in the context of the management of sustainability. Maintaining the inflation rate at a level between 1% and 5% is a challenge hard to accomplish. It is a known fact that inflation comes down to the economic, social and environmental pylons of sustainable development by damaging them, increasing the risk and the degree of uncertainty. Stopping this effect and the control of the inflation can be done by lowering the costs, as well as the unitary consumption of environmental, social and personnel resources. The growth of the competitiveness and a faster production than a wage growth contributes to these. Referring to the pylons of the sustainable development, mostly the economic pylon, it contributes to the growth of employment, of the productivity degree having the effect of reducing the unemployment (Dachin et al, 2003).

Reviewing The World Summit on Sustainable Development that took place in Johannesburg in 2002, the strategic activities specific to the premises of sustainable development are established considering the Summit's recommendations (Dima and Man, 2003). So, the concern of the states that are under the process of development towards thought, elaboration and monitoring their own strategies of sustainable development is being reminded to us. At the moment, the indications issued by the Summit in 2002 are still available, as not defining the strategies of the economically sustainable development to

establish actions in the long term is a thing that only a handful of states can abuse. Promoting sustainable development in Romania by supporting the growth of a sustainable economy is the effect attained by making the process of accounting financial management more efficient (Man, Nedelcu and Oprea, 2018). By worsening the environmental, social and personnel problems it is easier to find a solution to the technology adaptation and the usage of processes of low risk in the impact of nature. New approaches to the complexity of the sustainable development process and the disparity between the economic-social events and the consequence of their usage led to the phenomenon of sustainable development through the prism of the accounting management. The answer to current challenges of the sustainable development implies a clear establishment of the economic entity's responsibility concerning the environment, the social and the personnel (Caraiani et al, 2015). An improvement to the business model, a review of the risks that the economic entity faces, leads to the consolidation of the activity developed by the entity in the long term. These facts are not a particular situation when it comes to Romania, they are aspects that are universally available when it comes to the countries under development (Man and Ciurea, 2016). Romania has more strategies implemented or under implementation that are known at a national or local level. This implication has its roots in the managerial need and with time, it has reflected over the management strategy that has become a component part of the sustainable development as of now (Man and Vasile, 2012).

4. Programming and planning the sustainable development at a macroeconomic level in Romania

According to the studies, (National Agency for Environmental Protection, 2018), the strategic plan of Romania for 2020-2030 seems to be the perfect formula for achieving European standards regarding the social, environment and economy. In the context of globalization, Romania needs to resist competition, the circulation of goods and the market, not only for a short while but in the long term as well. As part of the European Union, Romania is aligned at its specific and has in implementation "The National Strategy for Sustainable Development of Romania Horizons 2013-2020-2030" (Ministry of Environment, 2008). Focusing on the proposed changes in Romania for 2020-2030 in figure no. 1 are presented areas to be established and on what is being done to accomplish them and finalize the actions proposed in the strategy, the attention is directed towards the conservation of natural resources, the domain of transport, of production and consumption and the domain of climatic changes.

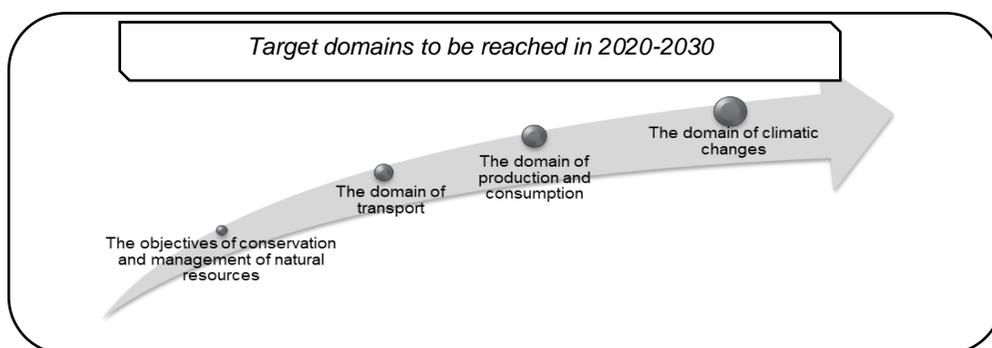


Figure 1: Established domains in the National Strategy of Romania

Source: The projection of the author based on the National Strategy of Durable Development of Romania, [Online] Available at: <http://www.mmediu.ro/beta/wp-content/uploads/2012/06/2012-0612dezvoltaredurabilasnddfinalromana2008.pdf>.

The natural resources are managed and appreciated through the objectives of sustainability of the European Union. Romania is just as conscious because it has programs implemented that target the water quality, waste management, reducing the negative factors produced due to global warming, the protection of the natural patrimony and biodiversity. It is reminded to us the Natura 2000 program (Natura 2000 Coalition Romanian Federation, 2018), and last but not least the prevention of natural disasters and decreasing the risk of them happening. The future plans of Romania between 2020-2030 foresee the allocation of the required sums to continue already started projects and to be able to rise to Europe's level with the careful redirection of the actions towards sustainable development.

In the domain of sustainable transport, the objective of the European Union is to reduce as much as possible the negative effects regarding the environment as well as supporting and satisfying the needs of the economic society. For 2020, Romania wants to make progress within infrastructure to be recognized by the European Union and for 2030 it wants to fit transportation in the requirements of the sustainable and European developments which would be at a considerably higher level and closer to the European Union's average.

The consumption and production of Europe follow the principle of sustainability. Romania's situation is of disparity between production and consumption. There is no equitable model to allow support, resorting to import. This is visible in the final price which slows down the access of every individual when buying different products and more than that it is about a chaotic consumption, over the necessary needs. For this situation to be fixed, industries that our country can exploit and develop in a sustainable way intervene, fact that boosts economy and the quality of life. For 2020, the Romanian proposal is to promote a sustainable production and consumption by increasing the value. This reported to consumption influences economic activities which promote environmental erosion. The year 2030 brings Romania a performance of the sustainable production and consumption, something that can be achieved by finalizing the process of public awareness.

In the domain of climatic changes, the target of the strategic objective is that of it being done under conditions of efficiency and to be able to achieve the existent level in Europe.

Promoting the strong points and improving the weak ones is advised. The period of time proposed in the strategy can put in motion the sustainability of consumptions and prime materials, synchronizing the economy with the environment and the social and removing the issue of the labor market creating an equitable report between the labor market and productivity. It is necessary to stabilize the managerial and political structure and to attract as many financing sources as possible and in the end to achieve balance and to maintain it. The complete development is composed of small structures headed towards development. The regional development programs that Romania has reached out to are a good start that deserves a continuity in application, for a shared development at a regional level concentrates the economy and diminishes stagnation, it attenuates imbalances and it facilitates access in disadvantaged areas. Spatial organization and its structuring depends on the infrastructure which, after it is stabilized, it complies with European standards of sustainable development.

Outlining the objectives and the regional development strategy's structure has high goals which need implication and coordination, but Romania already has an advantage.

Aligning to the European Union's standards is not at all a foreign subject for our country, but the disadvantage is that the standards have evolved in a rather small manner in comparison to the level of other countries.

5. The methodology of research

When it comes to the approached methodology, the paper is based on a qualitative research, made as a result of the analysis of the theoretical approaches about the macroeconomic context of the sustainable development. The choice of qualitative research is due to the fact that the depth of the analyzed concepts can be developed through this manner. The method of comparison is present by comparing the European strategy of sustainable development and the Romanian one.

As informational sources, the paper is based on books, articles published in specialty magazines, websites and excerpts from the National Strategy of Development of Romania. The inductive and deductive mechanisms lead to research towards the wanted direction to establish the exhaustive analysis of every aspect tied to the implications of sustainable development in a macroeconomic context. Considering these, the paper has the role of approaching macroeconomic aspects and every detail involved in the demands of this subject. A brief review of the National Strategy of Development of Romania and specialty literature contributes with the understanding of the sustainable development's aspects at a macroeconomic level. Calling out to the analysis of the content and the review, the presented text can be considered a documentary type paper.

The steps taken to accomplish the article are: planning, collecting data, analyzing data and ultimately drafting the article.

6. Romania's national strategy for sustainable development. Horizons 2020-2030

In a broad sense, Romania's national strategy of sustainable development for 2020 is its alignment to the actual environmental standards of the European Union and for 2030, reaching the European Union's level of sustainable development existing at that moment is desired (Ministry of Environment, 2008). For Romania, this process would mean a period of continuous growth economically and socially and the integration of the country to the European Union's standards of sustainable development. Figure 1 meets every necessary elements for the sustainable development's strategy planned for 2020-2030.

Our country took part in these problems, fighting the effects of global warming, bringing in a modern world satisfaction and assurance of the energy necessary. By respecting the premises of sustainable development it was possible to reduce emissions with greenhouse effect, a significant gesture which has been well seen by Europe. Romania's work does not stop here as it has to reach the European Union's level in domains like: energy (producing energy at a national level and trying to get rid of import). In Table 1, Section I. I. Estimates in the domain of climatic changes, the growth proposed to be reached in the future, concentrating on electricity from regenerative sources, the decrease of primary energy consumption and final energy is presented.

Romania's strategic objective in 2020 towards the climatic changes and the energy ones is that of it being realized under conditions of efficiency and to be able to reach the existent level in Europe.

Our country has assumed the obligation to accomplish the assumed environmental conditions. In exchange, for 2030 Romania wants to accomplish every commitment and to place the performance of the climatic and energy indicators at the average level of the European Union.

In the domain of durable transport the objective of the European Union is to reduce as much as possible the negative effects over the environment but at the same time there is the desire to support and satisfy the needs of the economic society. At the moment for Romania, the transports occupy a leading position in the priorities of the sustainable development having direct relations with the economy and the services. When it comes to transports, the road, rail and naval transports are being referred which impose to be corroborated at the

higher level of European quality. Transports produce negative effects over the environment, polluting by producing harmful substances that cars stream or sound pollution from these. That is why replacing older cars with newer ones is encouraged. Last but not least we are talking about the transport in infrastructure which involves a really good condition of the roads and the improvement of as many roads to facilitate access as possible. In table 1.1 section II. Estimates in the field of transport estimates regarding these aspects are presented being estimated a growth of biofuel consumption and a decrease in half in the number of accidents produced due to the growth of road safety.

Table 1: The proposed objectives for 2020-2030

Targets	Time horizons 2020-2030
<i>I. Estimates in the domain of climatic changes</i>	
Share of electricity produced from renewable sources	+38 %
Primary energy consumption	-30 %
Final energy consumption	-26 %
<i>II. Estimates in the field of transport</i>	
Biofuel consumption will grow	+ 10 %
The safety conditions will increase, estimating the reduction in the number of accidents	-50 %
<i>III. Estimates in production and consumption</i>	
Adjusting the microstructure of the economy	Over 60-70 %
Increasing the share of high value added products, based on medium and high technology, as well as services, in the structure of export	With 2-3% per year
Economic growth achieved without additional consumption of material and energy resources	Over 60%
The main objective is to accelerate the overall development of the service sector and its contribution to the growth of gross domestic product	Over 60 %
<i>IV. Estimates on the objectives of conservation and management of natural resources</i>	
The expansion of the sites of the "Natura 2000" program	60 % of all protected areas
<i>V. Forecasts for the medical system</i>	
Increased access and the improvement of medical services	50-70%
<i>VI. Forecasts on demographics</i>	
Population growth	20,8 millions

Source: The projection of the author based on the National Strategy of Durable Development of Romania, [Online] Available at:

<http://www.mmediu.ro/beta/wp-content/uploads/2012/06/2012-0612dezvoltaredurabilasnddfinalromana2008.pdf>.

For 2020 Romania proposes to realize progress in infrastructure for it to be recognized by Europe and for 2030 there is desire to classify the transports under the requirements of sustainable and European development which would need to be at a considerably higher level and closer to the average of the European Union.

The consumption and the production of Europe go by the principle of sustainability. The situation of Romania is of disparity between production and consumption. There is no equitable model to allow automatic support and it resorts to import. This shows in the final

price which slows the access of every individual when they buy different products and more than that we are talking about a chaotic consumption, over the necessary needs. To remedy this situation, industries which our country could exploit and develop in a sustainable way intervene, growing the economy and the quality of life. The estimates towards this direction are presented in Table 1, section III. Estimates in production and consumption. Reaching a percentage of over 60 in economy and especially in the development of the services sector is being estimated.

For 2020 the Romanian proposal is that of promoting a new production and a new sustainable consumption by increasing the value. This thing reported to consumption influences economic activities which promote the destruction of the environment. The year 2030 brings for Romania a performance of production and sustainable consumption by completing the process of public awareness.

The natural resources are managed and appreciated through the sustainability objectives of the European Union. As aware as that is Romania because it has implemented programs which target water quality, waste management, reducing negative factors produced due to global warming, natural patrimony and biodiversity protection. The Natura 2000 program (Natura 2000 Coalition Romanian Federation, 2018) is reminded to us and last but not least the prevention of the natural disasters and diminishing the risk of their happening. Table 1, Section IV. Estimates on the objectives of conservation and management of natural resources the percentage there is the desire to achieve is being presented.

Romania's future plans for 2020-2030 foresee the allocation of the necessary sums to continue the already started projects and to be able to rise to Europe's level with the careful routing of the actions towards sustainable development.

Improving the medical system from a quality point of view is promoted by the European Union though there is no unitary system applicable in European countries. Romania has applied to improve the sanitary system and the directions it has headed are: creating new methods of access to medical services for the disadvantaged individuals to benefit from, a suitable equipping of the medical centers as well as an educated and qualified personnel, a high quality of the services, assuring basic medicine, organizing the management of health in a better way and assuring financing in the long term. The sanitary system could stay in the way of sustainable development by using substances of dangerous nature (Ministry of Environment, 2008). Table 1 Section V. Forecasts for the medical system- is dedicated to the prognosis which estimates to be realized for the medical services improving the access to medical services, the established percentage being between 50 and 70.

Other than the listed aspects for 2020-2030, there is the desire to reach superior levels of the medical services' qualities and the implementation of new legislative programs at a national level meant to support a sustainable development in relation to the needs of the population. The comparison of the medical services in Romania with the ones of other European countries is being kept in mind as well.

The demography, migration and the social inclusion according to the European Union implies assuring the growth of the life quality level and the wellness of the individuals. The national legislation imposes controlling and combatting the aforementioned by keeping the migratory tendency and the population fluctuation under control. A growth of the population number at 20.8 millions of inhabitants in Romania is ambitiously presented in Table 1, Section VI. Forecasts on demographics. The actions in domains like the equality between chances, including individuals in the labor market, integrating vulnerable groups and last but not least developing the economy under social aspect want to be undertaken in the national strategy.

These actions will be realized by creating a favorable legislative framework, adapting to new, promoting and developing, actions which have a 10 year span between 2020-2030 to be implemented. To establish an order of the Romanian need, to align to the European The

sustainable development has strong support from the European Union and it permanently promotes sustainable principles. At a global level, there are differences in the existent economic and social resources and that is why a uniformity is being appreciated as much as possible of the development's principles. In this UN (United Nations, 2018) framework, it contributes with a significant share in international terms to boost sustainable development and the protection of nature. Later, the reinforcement of the internal and external policies and the approval to promote it is the objective of the European Union regarding the negligence of sustainable development and combating poverty. Romania wants to advance in this competition and it has started from implementing legislative measures for the financial support of the development. Combating poverty and increasing the standard of living is the proof of active participation to European policies and the expansion of the partnership collaborations on a regional and external level in domains priority to the National Strategy. By allocating the financing from the gross income or the GDP for development, Romania proposes for 2020-2030 a better sustainable development and it wants to earn the status of supporter of resources and national alignment, cooperation recognized fully in the European Union.

The focus is put on developing the human factor for, only through its development, the condition of life can improve. Our country has invested through previous strategic programs for the development of the human capital to encourage labor market. The action towards decentralization can assure the access from the get go to a quality education or professional forming, these being national strategic objectives planned for 2020-2030. A sustainable development is possible only through technology, innovative methods. Romania has complied from this point of view and through the government it took the measures necessary to develop research. In the future, there is the desire to evolve in knowledge, innovation, especially in economy and in the social environment by combining resources of environment with resources of social. Up until 2020 refining the legislation regarding innovation and automatically the sums that will be allocated, will rise. The allocation coming from the GDP is wanted and up until 2030 allocating larger sums for national research and for sustainable research is wanted as well (Ministry of Environment, 2008).

Thus, highlighting the objectives and the structure of the regional development strategy has high goals that need implication and coordination, but the advantage is that it will not start from scratch, Once Romania has adhered to the European Union, the country had to rise to certain standards, but the disadvantage is that the standards have evolved in a small manner as against the level of other countries. Today, Romania is placed at the level of countries under development and the work that needs to be done for it to become a developed country is found in the development strategy for 2020-2030.

7. Conclusions

Considering the aforementioned, I have come to the conclusion that Romania's strategy of sustainable development is according to the principles of sustainable development having common plans of action. A great deal of attention has been specifically given to the domains which target climatic changes to reduce emissions, harmful effects and the implication in the fight against global warming is being noted, calling out to the domains of transport, production and natural resources management and we consider directing our attention towards these an necessary imperious thing.

Judging by these considerations we believe that the actual legislation has traced the directions of action of the economic entities and implicitly of the accounting model from within the entity. Adapting the accounting models to the process of sustainable development is not facile to every entity in Romania, but we do believe that the strategy of sustainable development of Romania offers support during the implementation process. In the long term,

by respecting everything mentioned before in this paper, Romania's strategic plan for 2020-2030 is the perfect formula to reach European standards regarding social, environment and economy, calling out to the three pylons of the sustainable development. We can talk about an advantage that Romania has in the integration of the sustainable development in the accounting model because, the initiation of the plans and implementation of the projects of sustainable development have as basis promoting policies of environment, social and economy from the perspective of different domains. Debating the assumed objectives, organizing programs and strategies of education in the domain of sustainable development are key elements which can be applied at the accounting model's level. Respecting the forementioned, the integration of the aspects of the sustainable development process specific to the strategy completes the entity's accounting model.

We consider that the tie created between the common objectives of the sustainable development and the strategy of development represents an advantage and the Development Strategy of Romania will not affect the integration of the accounting model in the process of sustainable development.

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Bio-note

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THE IMPACT OF FISCAL DECENTRALIZATION ON INCOME AND EDUCATION INEQUALITY THROUGH ECONOMIC GROWTH IN EAST JAVA

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Abstract: *There are still many districts in East Java Province that are categorized as underdeveloped regions, which means that the region has low economic growth with a high income and education inequality. An economic model analysis that illustrates how the impact of fiscal decentralization has been exercised on income inequality and inequality of education through economic growth is needed. The analysis model used is path analysis to determine the direct and indirect impact of fiscal decentralization on income and education inequality through economic growth. The data used in the study were panel data from 2008 to 2015 collected from 29 districts in the East Java Province. The results of the study indicate that the implementation of the fiscal decentralization policy has not been able to encourage economic growth and reduce the number of income inequality and inequality of education. Decentralization makes income inequality even more intense. Economic growth has not been able to reduce the income inequality, but it can reduce the rate of education inequality.*

Keywords: fiscal decentralization, educational inequality, income inequality, economic growth.

JEL classification: I24, I25.

1. Introduction

The priorities and direction of the spatial development policy of the East Java Province in 2014-2019 are directed towards the consolidation of the urban National Centre of Activities as a metropolitan area in East Java, the development of the Regional Activity Centre, and increasing the linkage of the main production bags in East Java Province with the processing and marketing centre as the core of agropolitan system development as well as stabilizing the development of strategic areas by dividing the strategic role of regional development (East Java Provincial Government, 2015). It is important to note that all areas in East Java Province can functionally play a role to encourage economic growth in East Java Province in general.

The economic growth of the East Java Province in the past five years has always been above national economic growth. This growth is always stable at above 5%. The growth peak occurred in 2012 with a growth rate of around 6.5%. In 2017, the economic growth (year on year) reached 5.5% above national economic growth of 5.2%. However, the economic growth has not been able to push the per capita income to the middle-income limit; in 2017 the per capita income of the East Java province is still at USD 4,086; the gross domestic regional product value is USD 140 million.

Regional typology is also very important to note in formulating regional development policies, one of which was put forward by Klassen. The classification of patterns of economic development if based on Klassen Typology in the districts of East Java Province show a real inequality between regions (Soejoto et al. 2016). This in the long term will disrupt the

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development of East Java Province as a whole, especially to the achievement of development priorities.

The success of economic development is not enough to be seen only from an economic growth perspective, despite the fact that rapid economic growth in various regions is a key driver of poverty alleviation experienced by the region. Reduced poverty figures are still not able to guarantee the closing of the gap in the community, especially when the availability of natural resources is reduced and the rate of economic growth slows down.

Based on the neo-Classical opinion at the beginning of the development process, the development inequality between regions tends to increase. This process will continue to occur until inequality reaches its peak. If the development process continues then gradually, the development inequality between regions will decline. According to Williamson (1965), indirect economic development can reduce the level of inequality, but in the early stages, the opposite has occurred. Kuznets (1955) said that in the early stages of economic growth, income distribution would deteriorate, but at a later stage, income distribution would increase.

The inequality of people's incomes will reduce the benefits of growth, whereby the greater the level of income inequality, the lower the impact of growth on poverty alleviation. Income inequality will also affect the inequality of education and the family social environment, even in developed countries like America. Increased income gaps are related to the gap in the amount of money spent by low-income and high-income parents in educational enrichment activities for their children (Duncan and Murnane 2014). As a result, there is a difference in the level of learning achievement of children with low-income and high-income parents. At a higher education level is similar where there are differences in the level of college graduation in low and high-income families. McKeever's (2017) research conclusions also show no difference.

The decentralization policy that has been implemented in Indonesia since 2001 is an appropriate first step, in which the implementation of this policy is expected to reduce the various inequities that exist. In their study, Tselios et al. (2012) analyse the impact of decentralization policies in the EU. The results of the analysis show that greater fiscal decentralization is associated with low-income inequality, as regional revenues increase. Further decentralization is correlated with a decrease in inequality.

After more than a decade of implementation of decentralization policy in East Java Province, there is no region/city that can be classified as a developed and growing region. Although there is region/city in East Java Province with high economic growth as well as larger balancing funds than other districts, there are still significant disparities in income or educational inequality. A region has low economic growth with the condition of income inequality and inequality of higher education and right now, a great number of regions are categorized as being very lagging regions. How the impact of fiscal decentralization on income inequality and inequality of education is of key importance, especially in an effort to improve the prosperity of society by seeking a significant and stable economic growth.

A study undertaken by Lessmann (2012) suggests that while overall fiscal decentralization policies are capable of reducing inequality, but in the case of developing countries decentralization policies can trigger inequality between regions. Despite this, decentralization generally generates regional prosperity. The study on the effectiveness of the implementation of decentralization in various regions in the East Java Province is expected to show how the characteristics and direction of it impacts economic growth, especially related to income inequality and education.

Both income inequality and inequality of education, in the long run, will determine the quality of human capital. In developing countries, the quality of human capital is a key element of economic development. A person's level of education will determine their income level in the

future. The education level of the general population also determines the competitiveness of the developing country.

2. Research Methods

The method used in this research is a quantitative method given that the research is based on quantitative data (VanderStoep and Johnston 2009). This study belongs to the category of causal relationship studies because it aims to explain the causal relationship between variables through hypothesis testing (Bordens and Abbott 2013).

Fiscal decentralization is measured by the amount of the balance fund consisting of profit-sharing funds originating from taxes and natural resources, general allocation funds, and special allocation funds for each district in the East Java Province. Economic growth is measured through gross regional domestic product year on year with the following formula:

$$\text{Growth} = \frac{Y_t - Y_{t-1}}{Y_{t-1}} \times 100\%$$

Income and education inequality are measured using the Gini index with the following formulations:

$$gini_{incoms} = 1 - \sum_{i=1}^n f_i(Y_{i+1} + Y_i)$$

$gini_{incoms}$: Gini index

f_i : proportion of the number of households in one class i

Y_i : proportion of the total cumulative household income in class i

Testing the effect of fiscal decentralization variable (X_1) on income inequality (Y_2) and educational inequality (Y_3) through economic growth (Y_1) in the East Java Province has been done by using path analysis. Path analysis is a multivariate analysis technique that allows researchers to examine the relationship between complex variables either directly or indirectly to obtain a comprehensive picture of the relationships between variables in a model. In path analysis, there are two categories of common variables: exogenous and endogenous variables. Exogenous variable in this research model is the fiscal decentralization variable. While the endogenous variable is income inequality variable, education is an inequality variable, and a variable of economic growth. The research model used is illustrated in Figure 1.

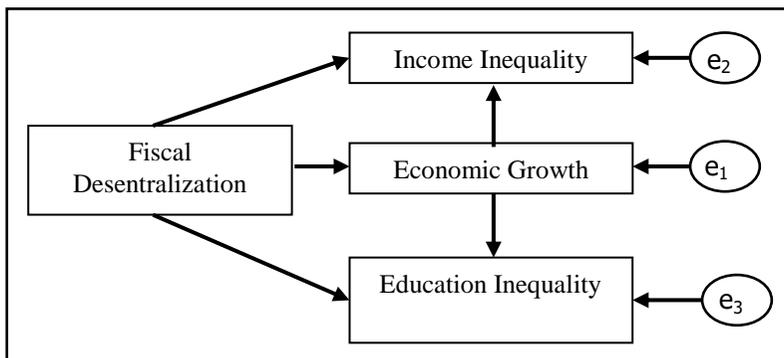


Figure 1: Conceptual Framework

Based on the conceptual framework, the following model is obtained,

$$Y_1 = \rho_{X_1 Y_1} X_1 + e_1$$

$$Y_2 = \rho_{X_1 Y_2} X_1 + \rho_{Y_1 Y_2} Y_1 + e_2$$

$$Y_3 = \rho_{X_1 Y_3} X_1 + \rho_{Y_2 Y_3} Y_2 + e_3$$

where X_1 is fiscal decentralization; Y_2 is income inequality; Y_3 is educational inequality; Y_1 is the economic growth; $\rho_{X_i Y_j}$ is the path coefficient; and ER is the error term
The data used in the study was obtained from panel data from 2008 to 2015 collected from 29 districts in the East Java Province, while 9 urban areas were not included in the analysis due to differences in growth characteristics and inequality.

3. Results and Discussion

The model analysis using path analysis begins with the goodness of fit model analysis. This analysis is done by looking at some test model criteria. Some of the goodness of fit test criteria can be grouped into three groups of test measures: absolute fit measures, incremental fit measures, and parsimonious fit measures. Absolute fit measures are performed by looking at the value of Chi-Square (X^2). This Chi-Square value determines the probability value (P). In the conformity test of the maximum likelihood-based model, it is expected that the value of X^2 is small so that the P value is greater than α (0.05). The value of X^2 in the calculation result is 66,205 (prob. 0.000) which means not fulfilment of the absolute fit measures.

Besides the Chi-Square values, there are another two absolute fit measures, i.e. Goodness of fit index (GFI) and Root Mean Square Error of Approximation (RMSEA). The GFI value in this model is 0.89, while the GFI size for the acceptable model is at least 0.9. The RMSEA value of this model is 0.521 with the expected value is 0.08.

Incremental fit measures include Adjusted Goodness of Fit Index (AGFI), Normed Fit Index (NFI), Comparative Fit Index (CFI) and several other measures. The AGFI score obtained in this model is -0.076 with an expected value of at least 0.9 to meet incremental fit criteria. While at the value of NFI obtained results of 0.247 with the suitability of the model or fit model if NFI at least 0.9. For CFI values the model is generated at 0.204 from the minimum value of 0.0 and maximum 1.0. The model is said to be fit when the CFI value is at least 0.9. Parsimonious fit measures are performed by looking at the values of Parsimonious Normed Fit Index (PNFI), Parsimonious Goodness Fit Index (PGFI), and Akaike Information Criterion (AIC). The output value of PNFI of this structural model is 0.041 while the minimum criterion is 0.9. At the value of PGFI obtained results of 0.089. Similar to the PNFI criterion, the larger PGFI values show a good model with a minimum limit of 0.9. For the value of AIC obtained a value of 124.568. The smaller the AIC value indicates the model the more parsimony. The output image of the structural model is presented in Figure 2.

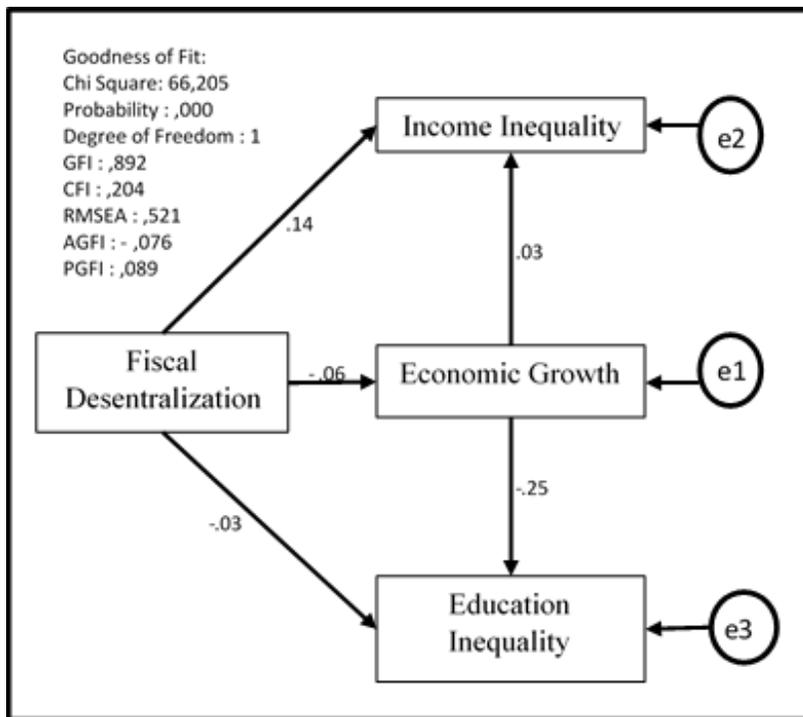


Figure 2: Output of Research Model (2018)

Overall, when looking at the various criteria of goodness of fit model, then it can be said that this model is not yet fit. This indicates that the fiscal decentralization policies implemented in various regions of East Java generally have diverse effects on economic growth, income inequality and inequality of education. The implications of implementing this diverse fiscal decentralization policy are in line with the characteristics of the impact of decentralization policies in developing countries. The results of Lessmann's (2012) research can at least be used as a reference f; the implementation of decentralization policies in developing countries have varying implications depending on local resources, government readiness and geographical and demographic conditions of the community. The results of Sepulveda and Martinez-Vazquez (2011) also present conclusions that are not much different: where the regional competencies also determine the direction of the impact of decentralization. The linkage between research variables is partially further analysed to find out a fuller picture of how decentralization policies work. But before that will happen, we need to statistically see how exogenous variables influence endogenous variables. The results of the complete path coefficient statistical tests are:

Table 1: Test of Path Coefficient Statistics

Path	Path Coeff.	t-stat.	Prob.	Note
Fiscal Decentralization (X_1) → Economic Growth (Y_1)	-0,060	-0,928	0,353	Small Influence / Not Significant
Fiscal Decentralization (X_1) → Income Inequality (Y_2)	0,141	2,209	0,027	Significant
Fiscal Decentralization (X_1) → Education Inequality (Y_3)	-0,031	-0,502	0,616	Small Influence / Not Significant
Economic Growth (Y_1) → Income Inequality (Y_2)	0,029	0,454	0,650	Small Influence / Not Significant
Economic Growth (Y_1) → Education Inequality (Y_3)	-0,253	-4,052	0,000	Significant

From the results of the path coefficient test in the table when described into three output equations namely:

$$Y_1 = -0,060 X_1 + e_1$$

$$Y_2 = 0,141 X_1 + 0,029 Y_1 + e_2$$

$$Y_3 = -0,031 X_1 - 0,253 Y_1 + e_3$$

The result of significance test of the coefficient of the decentralized variable path on economic growth shows a small but negative value. The influence is not proven significant but needs to be further examined because one of the main goals of decentralization is to create community prosperity. The decentralization policy has not been able to contribute significantly to economic growth in East Java. The inability of regions to maximize decentralization funds becomes more apparent. East Java's economic growth in recent years is very good and always higher than the national economic growth (Central Agency on Statistics, 2014).

The results of studies conducted by Herath (2009) provide evidence that while theoretically, decentralization promotes economic growth, empirically it is often inappropriate. The implementation of decentralization policy in Sri Lanka with a low level of decentralization is still in fact low and unable to increase per capita income. This is due to the lack of regional competence to take advantage of decentralization policies. It is also related to the readiness of local resources in managing the advantages of their respective regions. In a developing country like Indonesia, this is a natural situation where regional competence differences in managing their resources determines the success of economic development.

Differences in regional capabilities and resources in East Java have made the impact of decentralization policy in general not yet able to stimulate economic growth (Huda and Santoso 2014; Priyambodo, Luthfi, and Santoso 2015). There are still many local

governments in East Java who have not been able to convert their financial capacity into programs that are able to encourage economic growth in their regions.

The effect of decentralization policy on income inequality is shown on the lane coefficient value of 0.141 with a probability of 0.027. A probability value below 0.05 indicates that the effect is convincing. The positive lane coefficient shows that fiscal decentralization policy encourages income inequality in various regions. This can be explained by reference to the Sepulveda and Martinez-Vazquez (2011) studies which conclude that the impact of fiscal decentralization on income inequality depends on the economic size of a region. If the overall size of the economy is relatively small then decentralization encourages the distribution of income to deteriorate. As well as the research at the district government level in East Java, the current decentralization policy has not been able to address the wider community.

The positive impact of decentralization is still enjoyed by a small number of communities. A large number of regional heads involved in corruption cases also contributes to the indication that the positive benefits of decentralization is still enjoyed by those close to power. This is also contributing to sharpen the inequality of income in the region. The implementation of decentralization policy in Turkey deserves to be taken into consideration where local people have not been able to effectively respond to local government policies. The policy of decentralization without being followed by adequate administrative remedies will not be able to suppress inequality, instead, it will trigger new social problems (Özcan 2006).

The contribution of decentralization policy to education inequality is still very small, although there is an indication of the contribution of this policy to the reduction of the education gap in East Java. The coefficient value of the lane is -0.031 and not significant at the probability value of 0.616. It indicates that the effect of this decentralization on the decrease in inequality of education is still very small. If in the short-term decentralization has not been able to reduce the level of educational inequality, but the direction of the impact of this policy has begun to be seen with a negative coefficient. Due to the variety of educational conditions and problems in different districts, to see in detail the impact of decentralization on educational inequality requires a separate analysis in each region using long-term analysis.

The contribution of economic growth to income inequality in this study shows very small value with 0.029 path coefficient and the probability is 0.650. This condition suggests that high economic growth in East Java has not been felt equally by all levels of society. Growth concentrations still occur only in certain areas, especially in urban areas. The development policy implemented has not been able to touch the mainstay sectors in each region.

Economic growth was able to reduce the level of education inequality significantly. The coefficient of economic growth path on the educational inequality is -0.253 with a probability value of 0.000. Thus, empirically in East Java, it is proved that economic growth can reduce the rate of education inequality. This is very important in order to improve the quality of human capital of East Java in order to improve the prosperity in the future and continue to strengthen the position of competitiveness of East Java.

Good economic growth and sustained awareness will contribute significantly to the decline in inequality of education in East Java. Although decentralization has not been able to contribute significantly to the growth of the economy and reduce the rate of educational inequality, at least the direction of this policy has begun to be seen. As suggested by Sepulveda and Martinez-Vazquez (2011), increasing decentralization figures or above 20% of APBD will be felt only by regional impacts in developing countries. It is hoped that the power of good social capital will stimulate interpersonal trust, interpersonal cooperation, and social cohesion (De Mello 2004). Therefore, the region will have a more efficient government with a better government system, which can eventually grow even faster.

4. Conclusion

The implementation of a fiscal decentralization policy in the regency of the East Java province has not been able to encourage economic growth and to reduce the size of income inequality and educational inequality. Interestingly, it is precisely this decentralization policy that makes income inequality increasingly sharp. Local governments have not been able to make development policies that can effectively respond to all levels of society. Economic growth has not been able to reduce income inequality. The effects of economic growth are still felt by a small number of people, thus potentially widening the gap. On the one hand, economic growth is able to encourage equitable access to education so that the rate of education inequality can be suppressed. Consequently, the contribution of a decentralization policy cannot be felt directly for the moment and the increase in the decentralization rate is believed to have a positive effect in the long term. Of course, it should be accompanied by improvement of administrative system and improvement of regional competence in regards to managing its finances.

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INVOLVEMENT OF ACCOUNTING PROFESSION IN QUALITY OF NON-FINANCIAL REPORTING

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Abstract: *This paper presents issues related to non-financial reporting, focusing on sustainability reports. In recent years, corporate social responsibility (CSR) has been asserted as a new form of business governance, CSR being recognized in a global context. Companies have a significant impact on social development in the areas where they operate. Therefore, these companies have a responsibility that extends beyond a simple algorithm that refers to profit. There are a multitude of companies that are profitable in financial terms but have activities that harm their own employees and the community. There are major differences in CSR approach; these differences appear in the literature, where authors perceive differently the responsibilities of a company towards society, but also the way EU member countries implement the Directive 2014/95/EU of the European Parliament and the Council in the national legislation. CSR reporting shows how companies choose to behave in relationships with suppliers, employees, customers, investments, the environment, the company, and people who influence their financial results. Non-financial reporting is related to corporate social responsibility policy, but also to management of the risk and business strategy. By reporting CSR, investors, customers, employees and the company can make a pertinent comparison between companies performance. Approximately half of the EU countries have chosen to include the provisions of the Directive in the accounting legislation and the other countries have chosen to include provisions in other categories of legislation, which shows that not all EU countries attach great importance to the accounting profession in terms of reporting responsibility kind. Most EU countries choose to submit CSR information in a management report or a separate non-financial report, but there are a few countries that choose to report CSR activities in the annual report.*

Keywords: sustainability, non-financial reporting, transparency, credibility, Europe, accounting profession.

JEL classification: M14, M40, M49.

1. Introduction

Corporate Social Responsibility (CSR) can't be considered only a philosophical and practically inappropriate subject for the accounting profession because social responsibility is an effective way of supporting medium- and long-term financial interests of companies. When social responsibility action is thought to be a long-term corporate action plan, then society benefits both in social and economic terms.

CSR reporting shows how companies choose to behave in relationships with suppliers, employees, customers, investments, the environment, the company, and people who influence their financial results.

In Romania, according to the Directive 2014/95/EU, companies with more than 500 employees were required to produce a sustainability report to show the impact of the

company on the economy, which is its responsibility for its own employees, for society and for the environment. In our country, this Directive has been transposed by a minister's order that has restricted its scope. The companies that are targeted are state-owned or listed companies. In this way, the other hundreds of companies are not required to report, but only if they so wish.

The EU has adopted this directive for several reasons. First, transparency engenders confidence, both among investors as among consumers and other stakeholders. In addition, investors can better assess the opportunities and risks of their future investment if they are provided with insight into the policies and performance of non-financial aspects of the business.

In the context of the current global economy through the complexity of economic operations, the increasing competition imposed by the market economy and at the same time by the phenomenon of globalization, the quality, transparency and credibility of information are important factors in making decisions.

According to IAASB, users of financial statements are always in a position to receive information that is both incomplete or partly incomplete or partly inaccurate and incomplete due to the reporting framework currently in place, partly because companies choose to deliver an economic performance that positively influence the decisions of investors and creditors.

We can see that multiple changes are needed, both in terms of regulation and supervision of accounting reporting. These changes should aim to eliminate the discrepancies between transnational economic and financial information and provide a bridge to their comparability. The paper is organized as follows. The first section presents the theoretical aspects of the concept of CSR and the importance of reporting non-financial information. In the second section I describe the research methodology. The third section of the paper presents how the European Directive is adopted by the EU and European Economic Area (EEA) countries and the involvement of the accounting profession in quality of non-financial situations. The conclusion are outlined in the fourth section highlighting the idea that Directive 2014/95/EU serves as a vital instrument to progress the EU's agenda for CSR

The objective of the paper is to analyze how the directive is implemented in the EU countries, this being transposed by the country's accounting legislation or by separate legislation, in this way we have highlighted the importance of the accounting profession in terms of non-financial reporting.

In recent years, corporate social responsibility has been asserted as a new form of business governance, CSR being recognized in a global context. There are major differences in the CSR approach; these differences appear in the literature, where authors perceive differently the responsibilities of a company towards society.

2. Theoretical considerations

Lemus (2016) discussed about companies that its reporting their CSR results to the public because they want through these reports investors, employees, suppliers, and customers to see the company's involvement in social activities. Managers want to lead a profitable business in the long run and need information about indicators that can lead to risks. It is very important for management and shareholders to have access at one clear, transparent, and credible information.

According to Elkington (2004), RSC reporting describes how companies choose to behave in relation to suppliers, employees, customers, investors, the environment, the company, and the people who influence their financial results.

Hațegan et al. (2018) believe that non-financial reporting was related to CSR policy, but also to risk management and business strategy. Through CSR reporting, investors, customers,

employees and the company can make a pertinent comparison between company performances.

Leitoniene and Šapkauskiene (2016) mentioned about the fact that there were arguments for and against the concept of CSR, the anti-responsibility followers regard companies strictly as a profit-generating eco-entity, responsible only in relation to its shareholders; on the other hand, the followers of the concept consider the company as part of an economic and social framework, the company being held accountable both to shareholders and to different interest groups.

It goes without saying that any socially responsible corporation is interested in performing a profitable activity, but it must be assessed simultaneously with an analysis of the positive and negative effects posed by social, economic and environmental impacts on society in general. Garriga and Melé (2004) shows that the CSR refers to how business affects their own profitability, but also on the behavior and expectations of those involved: employees, shareholders, customers, authorities etc.

Antolin-Lopez et al.. (2016) consider that managers increasingly pay attention to corporate performance in terms of sustainability, assessment and reporting. if this type of reporting is consistent over time.

The main organization working in the field of CSR is the Global Reporting Initiative (GRI). GRI is an independent organization that encourages companies and other governmental and non-governmental organizations to perceive the importance of critical issues related to sustainability such as climate change, human rights, and corruption.

GRI has been working successfully since the 1990s, playing an important role in determining transnational companies in adopting sustainable reporting standards for the common benefit of the world economy, citizens and governments to substantiate decisions on relevant information.

Another important organization in Europe is CSR Europe, which in collaboration with GRI was a key element of support for companies and organizations in order to understand the non-financial reporting practice.

Better transparency as a result of the need to increase disclosure of qualitative information would reduce financial conflicts between information users, as this is also found among the principles of corporate governance; there is a correlation between the principles of corporate governance and the quality and accuracy of financial information.

Integrated Reporting is considered to be a process based on integrated thinking that returns a regularly integrated report on value creation over time in order to create an integrated international reporting framework through which companies communicate information to investors and interested third parties, for this reason, the International Integrated Reporting Council (IIRC) was established.

The International Integrated Reporting Council (IIRC) therefore defines the integrated report as "a concise communication on an organization's governance, strategies, results, and outlooks in the context of its external environment that indirectly lead to the creation of short, medium and long-term value".

Observing the evolution of integrated reports ahead of IIRC initiatives, looking back when large companies began to publish information on sustainability and social responsibility, we can delineate three main stages in reporting progress: financial reporting, sustainability reporting, and more integrated reporting; therefore the latter was a natural and necessary development of business performance.

Jensen (2001) considers that although the efficiency of the information system and the quality of information should be traits determined by the competition created within the free market, regulators work with the various professional bodies to establish a harmonized conceptual framework for reporting with the main purpose improving the quality and accuracy of financial information.

More and more companies are reporting on sustainability, including reporting on their social and environmental impacts, not just as a reporting tool but to support a sustainable strategy with new sources of return. Major significance also presents the tendency of regulatory organizations to develop reporting standards that include the social side.

According to the authors Hörisch, J., Freeman, R.E. and Schaltegger, S. (2014), information transparency and the quality of the corporate governance system are two closely interconnected concepts, with a high level of transparency being associated with high-quality corporate governance practices; this concept being an evolution of corporate reporting, a way of creating interdependence between elements and financial issues and management decisions, governance, and last but not least of sustainability.

The authors Schüller T., Arp A., Kirschner C. and Pleșea D, (2018) believe that materiality for decision-making is an international accounting principle. In practice, much of the information on the financial market is considered useful to investors because this information can use them to draw conclusions about the value, the temporal progress and the degree of security or the risk of future cash flows.

Auditing the annual financial statements is intended to ensure their quality, is an information tool for the company's external parts. The main function of an annual audit is to provide beneficiaries with an accurate picture of the annual financial statements. However, providing information is not only the responsibility of the auditor, but also the responsibility and duty of the management of the company or board of directors.

The expected earnings are mostly based on the available information obtained from the data provided by the annual financial statements. Therefore, if the investor is provided with financial information that is not transparent or that information is negatively evaluated, all of which have negative monetary consequences.

The results of the sustainability audit must be clearly distinguished from the audit of the financial statements. There are substantial differences in both regulation and content. Regardless of the audit standard used, the confidence level of the sustainability report can be individually set between the company and the audit services.

3. Research methodology

The research methodology of this paper starts with a first stage of scientific documentation. The research sample comprises a total of 30 countries in the EU and European Economic Area (EEA). The methodology approached involves analysis and synthesis appeal. Data was processed on the basis of a study by "CSR Europe and GRI" which shows the process of Member State actions to translate the Directive 2014/95/EU into national-level laws.

4. Analysis of the implementation the European Directive in EU countries and European Economic Area (EEA) countries

European Directives can be fully implemented in the legislation of each country or can be adapted by each country. The Table 1 outlines the main requirements of the Directive and how these have been implemented. Data was processed on the basis of a study by "CSR Europe and GRI".

It can be noticed that with regard to the implementation of the European Directive 2014/95/EU in national legislation, about half of the EU countries have chosen to include provisions in the accounting legislation and the other countries have chosen to include provisions in other categories of legislation. This shows that some countries do not give much importance to the accounting profession as regards the responsibility to prepare non-financial reports.

In the above table were presented the two countries with a limit of 250 employees in terms of CSR reporting: Sweden and Iceland. This shows us a greater interest in the two countries for what transparency and credibility means for companies. Other countries have to report a non-financial report if they exceed 500 employees.

Most countries prepare non-financial reports if they have net turnover over EUR 40 million or balance sheet total over EUR 20 million. There were also countries with different limits in terms of these indicators and countries for which there were no threshold for net turnover and balance sheet total.

It can be noticed that some countries have to report non-financial information to public interest companies such as listed companies, credit institutions and insurance companies, but most of these three categories also include others such as investment firms, factoring companies, health insurance companies, etc. which shows the interest of those countries for non-financial reporting.

Table 1: Countries classification depending on how the European Directive has been implemented

Indicators	Version 1	Version 2	Version 3
Implementation of Directive	Accounting law	Separate law	--
Countries	Bulgaria, Croatia, Czech Republic, Estonia, Finland, France, Hungary, Poland, Romania, Slovakia, United Kingdom (UK), Norway	Austria, Belgium, Cyprus, Denmark, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, The Netherlands, Portugal, Slovenia, Spain, Sweden, Iceland	--
Employees:	Over 500	Over 250	
Countries	Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, The Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, UK, Norway	Sweden, Iceland	--
Net turnover or Balance sheet total	over EUR 40 million or over EUR 20 million	Other limits	No limits
Countries	Austria, Cyprus, Finland, France, Germany, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, The Netherlands, Slovakia, Slovenia, Spain, Norway	Belgium, Bulgaria, Croatia, Czech Republic, Hungary, Poland, Sweden, Iceland	Denmark, Estonia, Greece, Portugal, Romania, UK
Public Interest Entities (PIE)	Listed companies Credit institutions Insurance undertakings	PIE from version 1 and other categories	All types of companies or legal entities
	Cyprus, Estonia, Finland, France, Ireland, Italy, Latvia, Luxembourg, Malta,	Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Germany, Greece,	Sweden

Countries	Slovenia, United Kingdom, Norway	Hungary, The Netherlands, Poland, Portugal, Romania, Lithuania, Slovakia, Spain, Iceland	
Disclosure Format	Requirements were the same as in the Directive	Requirements have been adapted	--
Countries	Cyprus, Finland, Ireland, Luxembourg, Poland, Portugal, Romania	Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Malta, The Netherlands, Norway, Slovakia, Slovenia, Spain, Sweden, United Kingdom	--
Auditor's involvement	Requirements are the same as in the Directive	Requirements have been adapted	Requirements have been omitted
Countries	Austria, Croatia, Cyprus, Czech Republic, Estonia, Finland, Germany, Greece, Hungary, Ireland, Lithuania, Luxembourg, Malta, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden	Belgium, Bulgaria, Denmark, France, Iceland, Italy, Latvia, The Netherlands, Romania, United Kingdom	--
Information shall be presented in:	Management report	Separate non-financial report	The annual report
	OR	OR	
Countries	Austria, Belgium, Bulgaria, Cyprus, Denmark, <u>Estonia</u> , Germany, Ireland, Italy, Latvia, Luxembourg, <u>Malta</u> , <u>The Netherlands</u> , Poland, Portugal, Romania, Slovenia, Spain, <u>Iceland</u> , <u>Norway</u>	Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Finland, Germany, Ireland, Italy, Latvia, Lithuania, Luxembourg, Poland, Portugal, Romania, Slovenia, Spain, <u>United Kingdom</u>	Croatia, Czech Republic, Finland, France, Greece, Hungary, Lithuania, Slovakia, Sweden

Source: own representation based on the article "Member State Implementation of Directive 2014/95/EU", published by CSR Europe and GRI in 2017

In terms of disclosure format, only a few countries, including Romania, chose to present non-financial reports as in the EU Directive, and most countries were adapting the information presented by the Directive.

According to the table above, most EU countries transpose into national legislation the same requirements as are outlined in the directive. Directive 2014/95 / EU proposes that Member States ensure that the auditor verifies whether the non-financial statement has been drawn up. Member States should provide for the obligation to verify the information contained in the non-financial statement by the auditor.

Member States have the possibility to exempt undertakings which exceed 500 employees from the obligation to draw up a non-financial statement in cases where they submit a

separate report corresponding to the same financial year and with content covering the same topics.

Most countries choose to submit CSR information in a management report or a separate non-financial report. France, Greece, Hungary, Lithuania, Slovakia, Sweden are the countries that present this information only in the annual report. The only country that chooses to submit CSR information only in a separate non-financial report is the United Kingdom. Malta, The Netherlands, Estonia, Iceland and Norway have adapted in their national legislation that data on the involvement of enterprises in CSR actions are only presented in the management report.

5. Conclusion

The study shows that most countries have adapted European Directive, which means that each country had different approaches to the regulation and implementation of the Directive's objectives. The Directive opened the way for Member States and EAA countries towards a new beginning of CSR and a sustainable global economy.

The European Commission (EC) encourages Member States to work towards further improvements to the transparency of undertakings' non-financial information. Directive 2014/95/EU serves as a vital instrument to progress the EU's agenda for CSR.

Each EU country could choose to implement the Directive 2014/95/EU into national law through accounting legislation or separate legislation. In Romania, the Directive was implemented in the accounting legislation because the lawyer considered it necessary for both financial and non-financial information to be in charge of the accounting profession.

In my opinion, non-financial reports should be within the scope of the accounting profession and should accompany the financial reporting to present a transparent and credible image from the company. I believe the future of reporting in Europe is bright.

This article is a theoretical one, but the research will be continued with practical applications by critically analyzing sustainability reports and identifying factors that lead to better reporting.

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