Business Administration and Business Economics

The Influence of the Leadership Style on the Resistance to Change Phenomenon in Romanian Organizations

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Abstract: In this article we examine the influence of the leadership style on the resistance to change phenomenon, as well as how the degree of resistance to change differs in private organizations versus public ones. After analyzing the literature and conducting a survey in Romanian organizations we have concluded that the leadership style adopted by a top manager has an important impact on employees resistance to change. The research was designed to inform practitioners, researchers, managers and other interested persons about the influence of the leadership style on the resistance to change phenomenon, as well as how the phenomenon is manifested in different types of organizations. The main contribution of this paper is that in order to benefit of a lower degree of resistance to change from employees, the participative leadership style is recommended to be applied.

Keywords: resistance to change; leadership style; public organization; private organization

JEL Classification: O30; O39

1. Introduction

This paper aims to investigate the resistance to change phenomenon in the Romanian organizations, the objectives of the article being: first, to identify the degree of resistance to change shown by top managers versus operational officers, second, to identify the degree of resistance to change in private organizations versus public ones, third, to identify the dominant leadership style in the Romanian organizations, and last, to determine what effect has the adopted leadership style on the resistance to change phenomenon.

To reach our objectives, we have conducted a survey on 232 employees, 112 being top managers and 120 operational officers. Survey administration and data collection, both on paper and electronically, was conducted between February 25 to March 30, 2013. The acceptance rate of responses was 80.55%. As stated by

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Edwards et al. (1997), "there is no accepted criterion for responses to surveys, but in general, the rate of 50% or more is considered to be satisfactory".

2. Literature Review

Resistance is a natural reaction of people, regardless of the impact that change will have. The biggest problem is not the change itself, but the inability of leaders responsible with implementing the change to anticipate and respond promptly to employees resistance to change. Goetsch and Davis (2006) refer to the fact that "the ability to manage resistance and smoothly implement change in order to meet the challenges of the environment is essential for organizational survival".

According to Kanter et al. (1992) and Bennebroek Gravenhorst (2003, p. 6), all members of an organization manifest resistance to change, except executive managers. The authors found that when executive managers try to implement a new change, middle managers and operational officers always meet their decisions with resistance to change.

Although there is sufficient evidence to support the above mentioned statement, Smith (1982) and Spreitzer and Quinn (in Dent and Galloway, 1999, p. 26) disagree, bringing solid arguments. Smith indicates that top managers and all those who have some power in the organization usually are reluctant to new implementations. They prefer to maintain the status quo at the expense of more radical changes. In support of this idea, Spreitzer and Quinn, who conducted a study over 3000 managers in Ford Company and found that those who usually want new changes are middle and lower level managers, while top managers are often the ones who oppose to new ideas.

Resistance to change from employees part is greatly influenced by the leadership style adopted by the top manager, which represents the manner in which the manager will influence in future its subordinates.

The best known classification of the leadership styles is the one proposed by Lewin (1939), who classified the styles in: authoritarian, democratic and permissive (laissez-faire). Two leadership styles are most commonly encountered in Romanian organizations, these being: authoritarian style, which is results oriented and participative style, oriented towards human relationships.

The authoritarian leadership style represents the classic approach according to which the manager is the one who has both power and authority to make decisions. Once the decision is made, it is communicated to the subordinates without the possibility of the last ones to express their views. An important feature of this style is that both employee motivation and influence is made either through a reward or a punishment. As a result of multiple researches, it was found that organizations that have many authoritarian leaders record both a very high turnover, as well as a high degree of absenteeism from employees part (Ispas, 2012).

Authors like Muczyk and Reimann (1987), Yukle (1989) and Bass (1981) state that this style is task-oriented, with a convincingly and manipulative character (in Clark et al., 2009, p. 212). Depending on employee attitudes, the adoption of this style can be beneficial or less beneficial. It is not recommended for top managers to adopt an authoritative leadership style when employees feel stressed, have an increased dependency towards the manager, are unable to generate creative ideas, as well as in those situations when employees want to be actively involved in the organizational change process.

On the other hand, the adoption of this style can be beneficial in those situations when new staff is hired, the new employees not being familiar with the working procedures and not having sufficient knowledge to carry out their activities, in those situations when the time to take a decision is limited, as well as when a change is urgent and employees do not have sufficient experience to make decisions (Zlate, 2004, pp. 101-137).

The participative leadership style, which is also called *democratic*, is characterized by employee involvement in decision making, encouraging employees to express their opinions and make contributions that might help improve the change process. The authors Clark et al. (2009, p. 213) state that employees who work with a manager that adopts a participative leadership style tend to be more engaged, committed and loyal than those who work with an authoritarian manager.

Employee empowerment and support are the basic characteristics of this leadership style, an important emphasis being put on teamwork and employees freedom to make decisions. However, there are situations in which the adoption of this management style is not recommended, these situations being: the management of the organization does not have sufficient time to learn about employees views, the manager feels threatened by employee involvement or in those cases when no mistakes or delays are admitted (Zlate, 2004, pp. 101-137).

Comparing the two leadership styles, we can conclude that resistance to change will be much higher when the manager will adopt an authoritarian leadership style, characteristic to a collectivist culture, than when the manager will adopt a participative leadership style, specific to an individualistic culture.

Reviewing the literature, I found that to successfully implement an organizational change process it is not recommended to use only one leadership style, but a combination them, corresponding to each situation. Of course, each manager will adopt the style that characterizes him better and which he considers to be more appropriate to each situation. As Robert Tannenbaum and Warren Schmidt stated in the article “How to choose a leadership pattern” published by Harvard Business Review in 1957, “the leadership style is manager’s option”.

3. Method

The aim of this study was to inform practitioners, managers, researchers and other interested persons about the resistance to change phenomenon, through the above mentioned objectives. Research was conducted between February 25 to March 30, 2013, data being collected through a questionnaire.

The participating organizations were both from a private and public sector, the survey including 232 employees, from which 112 were top managers and 120 were operational officers. The acceptance rate of responses was 80.55%. As stated by Edwards et al. (1997), “there is no accepted criterion for responses to surveys, but in general, the rate of 50% or more is considered to be satisfactory”.

The respondents who participated in the study were from various parts of the country, however, most responses were received from employees in Bucharest, the western and eastern parts of the country.

4. Results

4.1. Descriptive Analysis

As the participants to the study worked in organizations with different fields of activity, we began our research with a classification of the responses according to the field of activity. 11 fields of activity were identified, the largest share being held by organizations in the public sector - 29.31%, followed by organizations in the industry sector - 19.83% and trade sector – 10.34% (Figure 1).

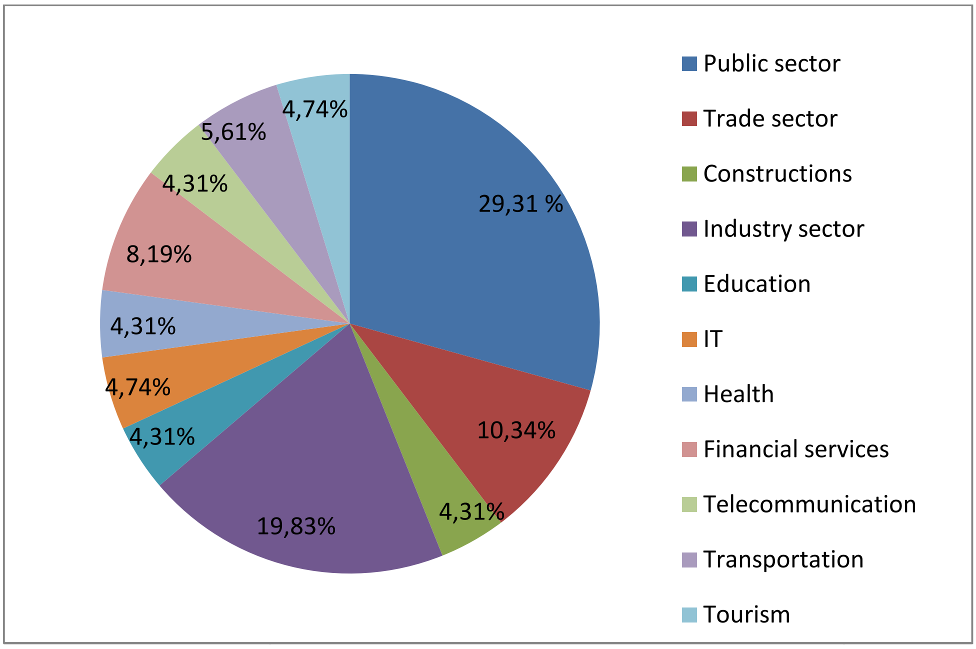

Figure 1. Fields of Activity

In order to achieve a deeper research of the resistance to change phenomenon, two types of organizations were considered: private and public.

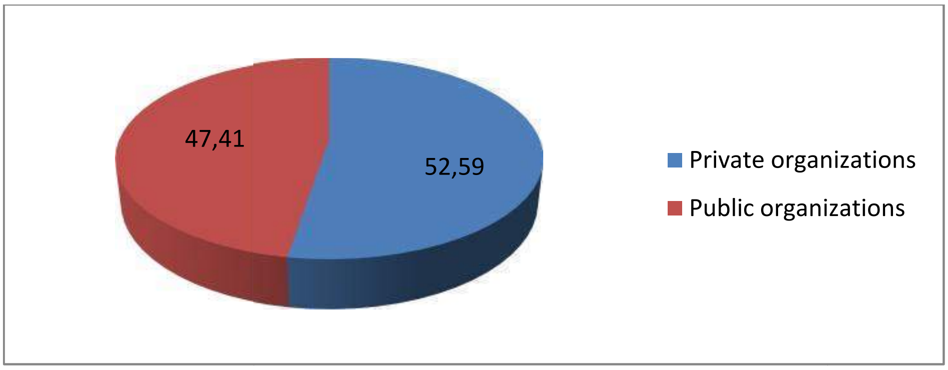

Figure 2. Private Organizations versus Public Ones

It can be easily seen in figure 2 that more than half of the respondents work in a private organization - 52.59%, but even so, the number of the respondents from the public sector is quite satisfactory, yielding a value of 47.41%.

Analyzing the structure of the sample in relation to the size of the organization, we found that respondents come from organizations of different sizes. As it can be seen in figure 3, the most active respondents are from organizations with a number of 51-250 employees, representing 40.52% of the sample and they are followed by employees of large companies with more than 500 employees, which represent 28.02%. On third and fourth place are situated employees from small organizations and those that have a number of 251-500 employees.

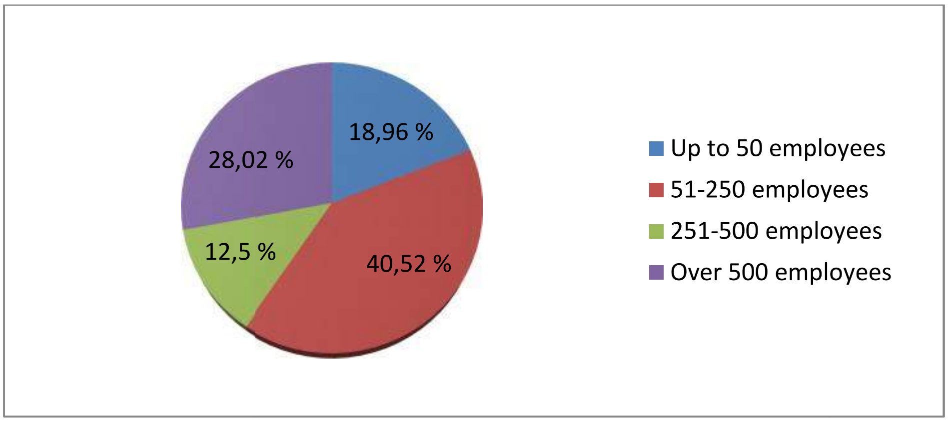

Figure 3. Sample's Structure in Relation to Organization's Size

The average age of the operational officers was 34 years old, while for top managers it was 44 years old. The most active respondents had an age between 26-35 years old, being followed by respondents with an age between 36-45 years old and 46-55 years old. Only 13 of the respondents had an age below 25 years old and no employee was aged 65 (Figure 4).

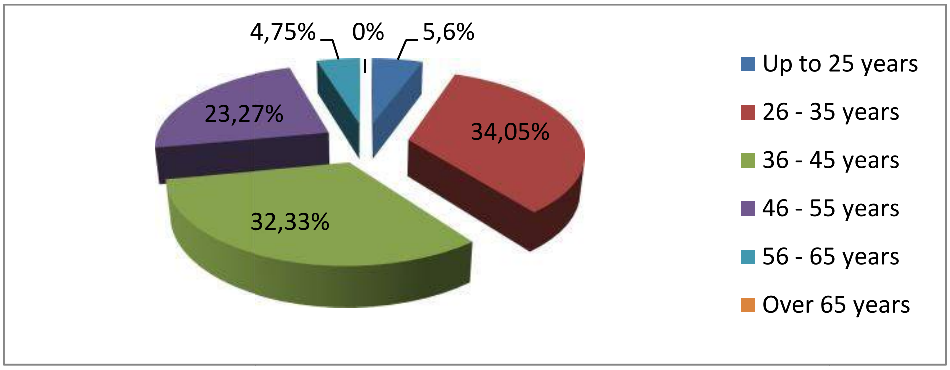

Figure 4. Sample's Structure in Relation to Employees Age

As respects emplyees' sex, 121 respondents were women and 111 were men. In the case of top managers more respondents were males, 54.5%, while in the case of operational officers, females were predominant, 58.3%.

4.2. Hypothesis Testing Results

H1: Top managers manifest a lower degree of resistance to change than operational officers.

Table 1. Descriptive Analysis of the "Resistance to Change" Scale

	Results top managers	Results operational officers
Mean	**1.8554**	**2.5649**
Standard deviation	.53841	.73087
Skewness	.427	.309
Skewness standard error	.228	.245
Kurtosis	-.256	.076
Kurtosis standard error	.453	.485
Minimum	1.00	1.00
Maximum	3.40	4.60

From the above table we see that the average score for top managers is 1.8554, while for operational officers it is 2.5649. We conclude that change is often encouraged by top managers and often accepted by operational officers. However, the difference between the means of the two groups of employees suggests that the degree of resistance to change is more pronounced in the case of operational officers compared to the case of top managers.

The hypothesis is accepted, top managers showing a lower degree of resistance to change than operational officers.

H2: Resistance to change is lower in private organizations compared to public ones.

The hypothesis is accepted, resistance to change from both parts, top managers and operational officers, being lower in private organizations than in public ones. Levene test results support the hypothesis that the difference between the degree of resistance to change is due to the type of organization. The results indicate choosing from SPSS the situation "Equal variances not assumed" and related to it, the following values for t test: $t=-4.174$, $p=0.000$ for top managers and $t=-4.008$, $p=0.000$ for operational officers. We consider this level acceptable and significant, $p <0.001$

H3: Romanian managers adopt rather an authoritarian leadership style than a participative one.

The hypothesis is accepted. Both from top managers part as well as from operational officers part, the dominant leadership style is the authoritarian one.

Analyzing top managers answers, we found that 68.75% of respondents apply more frequently an authoritarian leadership style, while 31.25% show a preference for applying the participative style.

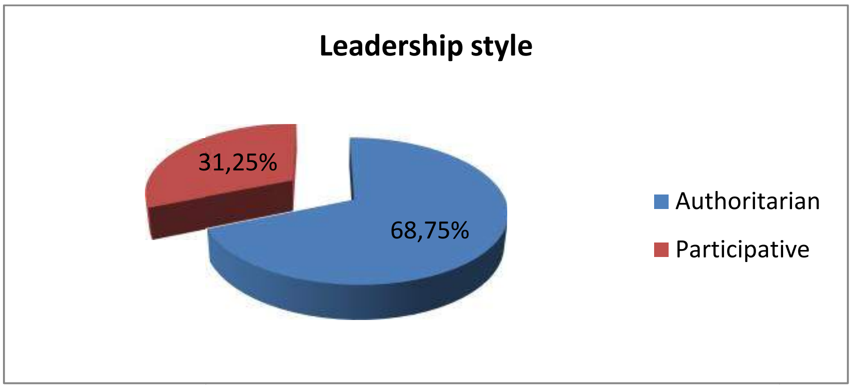

Figure 5. The Dominant Leadership Style According to Top Managers Responses

In terms of operational officers, 73.61% of respondents perceive the style practiced by top managers as authoritarian, while 26.39% perceive it as a participative one. We conclude that the dominant leadership style in the Romanian organizations is the authoritarian style.

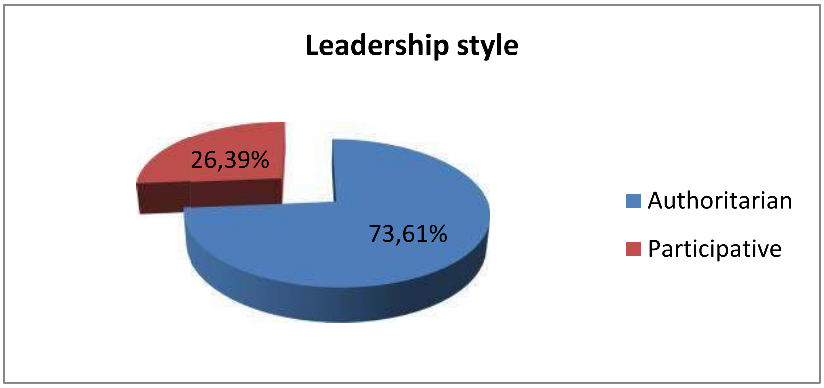

Figure 6. The Dominant Leadership Style According to Operational Officers Responses

H4: The degree of resistance to change is more pronounced when top managers adopt an authoritarian leadership style.

The hypothesis is accepted, the research results supporting the hypothesis being the following: Pearson coefficient $r(112)=0.289$, $p<0.5$ for top managers and $r(120)=0.277$, $p<0.5$ for operational officers.

At the same time we note that the degree of resistance to change is less pronounced in cases where top managers adopt a participative leadership style, the results being: Pearson coefficient r(112)=-0.069, p=0.469 for top managers and r(120)=0.079, p=0.444 for operational officers. According to the results, the degree of resistance to change is lower when top managers use a participative leadership style.

H5: Managers from public organizations apply more frequently an authoritarian leadership style, while managers from private organizations tend to practice a participative style.

The hypothesis is rejected, the obtained statistical results for both groups of respondents not supporting the original hypothesis. Applying the t test for top managers we obtained a t(112)=0.285, p=0.776, respectively t(112)=-1.324, p=0.188, and for operational officers a t(120)=- 0.198, p=0.843, respectively t(120)=-1.246, p=0.215.

Correlations are not significant, which means that the average difference is due to chance for both categories of respondents and therefore we cannot state that the authoritarian leadership style is more frequently found in public organizations respectively, participative leadership style is more frequently found in private organizations.

5. Conclusions

Although change is often encouraged by top managers and frequently accepted by operational officers, the degree of resistance to change shown by top managers is lower compared to the one manifested by operational officers. Both categories of employees manifest resistance to change, the phenomenon being more pronounced in the case of the bottom line employees.

These results do not support Smith's (1982) and Spreitzer and Quinn's (in Dent and Galloway, 1999, p. 26) statement that "top managers and all those who have some power in the organization are usually reluctant to new implementations, preferring to maintain the status quo at the expense of more radical changes". But, to some extent, support the statement made by Kanter et al (1992) and Bennebroek Gravenhorst (2003), according to which "all members of the organization manifest resistance to change...", indicating that in this situation the executive managers are included in the category of those who manifest resistance to change.

Resistance to change is lower in private organizations than in public ones. This result confirms my initial expectation, employees from public organizations showing a higher degree of resistance to change. Due to the mechanistic organizational structure adopted by most public institutions and the limited financial and technological resources that they have at their disposal, the resistance to change phenomenon is more pronounced than in private companies.

The dominant leadership style in the Romanian organizations is the authoritarian one, view shared by both top managers and operational officers. Analyzing the answers of top managers, we found that 68.75% of respondents applied more frequently the authoritarian leadership style, while 31.25% show a preference for applying the participative style. In terms of operational officers, 73.61% of respondents perceive the practiced style by top managers as authoritarian, while 26.39% perceive it as a participative one.

The resistance to change phenomenon is more pronounced in those cases where top managers adopt an authoritarian leadership style and lower when top managers adopt a participative leadership style. In order to benefit of a lower degree of resistance to change from employees, the participative leadership style is recommended to be used.

The leadership style practiced by top managers does not vary by the type of the organization. Although we initially assumed that the authoritarian style is more frequently found in public organizations versus private ones, respectively the participative style is more frequently found in the private organizations versus public ones, the assumptions were not supported, the correlations between the two scales being insignificant.

6. Acknowledgments

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Evaluation of the Strategy Management Implementation in Project-Oriented Service Organizations

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Abstract: Although developing strategic and operational plans is a difficult and complicated process, their successful implementation is much more difficult. Many organizations fail in the full implementation of their strategies. This is not due to the partial definition of strategies and organization's operational plan, but this is likely due to the lack of strong framework for creating alignment between employees and operational process and the organizational goals. To implement strategies effectively and to develop a comprehensive management system and to improve the performance, Robert Kaplan and David Norton introduced a modern management system which is Balanced ScoreCard. Likewise they introduced five main criteria: leadership, translation, alignment, every day process and ongoing process for a strategy oriented organization. This paper is intended to offer a systematic approach for measuring the effectiveness and efficiency of the strategic plan performance. For this study the questionnaire was distributed in a project- orientated service organization and after collection, by the use of statistical. Analysis especially factor analysis the grouping of sub-criteria under the five main criteria was confirmed. The statistical analysis showed that, two criteria of alignment and every day work had the lowest scores in terms of both implementation and effectiveness in the organization's senior and executive manager's point of view. With deep interview, studying of scorecards and meeting of the strategic committee of the studied organization, the two dimension of alignment and every day work were further examined and after identifying upgradeable areas, some suggestions for improving the effectiveness and efficiency of the studied organization were presented.

Keywords: strategic planning; strategic management; evaluation

JEL Classification: O19

1. Introduction

Due to the environmental changes and more complex organizational decisions, comprehensive program must be prepared to deal with these changes and

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complexities. This plan is nothing but a strategic plan. The strategic management includes activities related to investigation, evaluation, strategies selection, adopting any internal or external measures for implementing these strategies and finally controlling the performed activities. Considering the need for strategic plan, many organizations develop and implement it but in many cases after a while the organization realizes that it hasn't achieved the expected effectiveness and efficiency. This paper is intended to offer a systematic approach for measuring the effectiveness and efficiency of the strategic plan performance. The designed mechanism is implemented in a public service provider organization and the effects of the implemented strategic plan are assessed and the results are presented.

2. Literature

Evaluation and performance management is the result of organization's strategic and operational plans. Although developing strategic and operational plans is a difficult and complicated process, their successful implementation is much more difficult. Many organizations fail in the full implementation of their strategies. This is not due to the partial definition of strategies and organization's operational plan, but this is likely due to the lack of strong framework for creating alignment between employees and operational process and the organizational goals. (Creelman & Makhijani, 2008, pp. 1-16)

By simply relying on tangible assets, today's organizations cannot carry out performance evaluation and thereby the comprehensive performance management. (Kaplan & Norton, 2004; Kaplan & Norton, 2000)

To implement strategies effectively and to develop a comprehensive management system and to improve the performance, Robert Kaplan and David Norton introduced a modern management system which is Balanced ScoreCard.

Balanced scorecard management system was introduced as a comprehensive framework for performance evaluation and strategy promotion and it leads to balance between short term and long term goals, financial and nonfinancial measures, internal and external performance, internal and external stakeholders and conducting and functional indicators of performance. (Niven, 2008; Niven, 2006)

Kaplan and Norton (founders of balanced scorecard model), announced that for the complete performance evaluation of the companies and organizations, this performance should be evaluated from four perspectives.

1. Financial perspective;
2. Customer perspective;
3. Internal processes perspective;
4. Growth and learning perspective.

After this step companies should determine their goals in each of these four perspectives and choose indicators to evaluate success in achieving each perspectives objective and then the quantitative amount of each of these indicators for the specified evaluation period should be calculated. The most important tool in this model is BSC or Balanced ScoreCard. Due to the use of colors in Balanced Scorecard it is also called Traffic Light Report. (Chavan, 2009, pp. 393-406; Davis, & Albrigh, 2004, pp. 135-153; Yüksel, & Dağdeviren, 2010, pp. 1270-1278)

After the objectives and their quantitative values are determined, actions and executive innovations should be planned and implemented to achieve these objectives. It is proven in practice that a kind of cause and effect relationship exists between the objectives and the indicatives that link them together. This means that to achieve financial gains (in financial perspective) we should create values for our customers (in customer perspective). This will not be possible unless we become superior in operational processes and comply them with our customers' demands (Internal process perspective) and achieving operational superiority and developing a value adding process is not possible unless a suitable working environment for staff is developed and innovation, creativity, learning and growth are strengthen. (Fernanses, et al. 2006, pp. 623-634; Kaplan & Norton, 2008)

According to previous researchers, failiure in strategies is not due to weakness in formulating them, but this is due to their unsuccessful implementation. (Parmenter, 2010; Blokdijk, 2008)

When managers of successful organization are asked about how they have achieved this success, two words are used frequently, alignment and concentration. To achieve strategic alignment and concentration, these organizations use a specific and same model which is recognized as five principles of a strategy oriented organization. These principles can be summarized as:

1. Translate strategy in to operational terms;
2. Align the organization with strategy;
3. Convert the strategy in to employee's every day work;
4. Make the strategy a continuous process;
5. Evolve the organization by senior management leadership. (Kaplan, & Norton, 2001, pp. 84-104; Johnson, 2001, pp. 319-330; Papalexandris, et al., 2005, pp. 214-227)

3. Methodology

According to the studies carried out by Kaplan and Norton on five principles of a strategy oriented organization, these principles are used in this paper for evaluating the performance of a strategic management implementation. According to the five principles, questionnaire was designed with five main criteria: leadership, translation, alignment, every day process and ongoing process. To design the questionnaire interviews were done with strategic management experts and they were asked about the reasons of success or failure in implementing the strategic plan. Then criteria determined by Kaplan and Norton in their studies were complied with the criteria derived from interviews and the questionnaire was designed.the questionnaire was distributed in a project- orientated service organization and after collection, by the use of statistical analysis especially factor analysis the grouping of sub-criteria under the five main criteria was confirmed.

The method used in this study is Mixed Research Metodology. Mixed researches are those researches which are done by the use of combination of qualitative and quantitative research methods. (Teddie, &Tashakkori, 2009)

4. Evaluating the Implementation of Strategic Plan in a Project-Oriented Service Organization

4.1. Introduction of the Studied Organization

According to the statute, this Company was established with primary goals of supply, production, transmition, distribution and sale of electric power for all electricity consumption in the organization's area of activity. It includes deputies of planning, design and development, operation, financial support, human resources, coordination and independent office of protection, board, public and legal relation. To achieve its objectives, company fulfills the activities that can b classified into five areas of activity:

1. Operating activities;
2. Development and construction activities;
3. Financial activities;
4. Planning activities;
5. Activities related to human resources.

From the second half of 2009, this Company decided to develop a strategic plan using (BSM) Balanced Strategic Management.

After about 2 years of developing and implementing the strategic plan in this organization, it was required to evaluate the strategic plan. This assessment is based on the research method which was previously discussed in this article and the process and results will be discussed later in the article.

4.2. Investigating the Performance of Strategic Plan Implementation through Measurement of Opinions Based on Kaplan and Norton Studies

The main objective of the present discussion is to examine the implementation status and also to examine the effectiveness of strategic management process in general and also separately in each of the dimensions: leadership, translation, alignment, every day work and ongoing process.

According to the studies conducted by Kaplan and Norton on the five principles of a strategy oriented organization, these principles have been used in this article to evaluate the performance of strategic management implementation.

This questionnaire measures the five dimensions emphasized by Kaplan and Norton in implementing the strategies. However after being designed, the mentioned questionnaire was given to experts and scholars and their desired reforms based on the research environment were applied on both form and the content. This questionnaire is consisted of two sections and 27 questions. In the first part of the questionnaire, the question which is trying to be answered is to what extent the company has implemented each of the items mentioned in the questionnaire. In the second part the respondents' evaluation of the effectiveness of implemented items are evaluated.In this regard, after collecting the distributed questionnaire and calculating the factor analysis with the use of SPSS software, results showed that the factor loads for all the indicators is more than 0.5 which again confirms the validity of the questionnaire. The mentioned action was also done for effectiveness assessment part and the validation was also confirmed.

4.2.1. Implementation Status

For the evaluation of the strategic management implementation status one sample t test is used. And since a 10-point scale is used here, number 5.5 is considered as the median. The evaluation results shoe that the implementation status of leadership and translation is desirable; the status in alignment, everyday work and ongoing process is undesirable.

4.2.2. The Effectiveness Status

The evaluation result shows that the effectiveness of Translation is satisfactory, while, the effectiveness of other dimensions is unsatisfactory.

4.2.3. Conclusion of the Quantitative Study

The assessment results of strategic management's dimension's implementation at the Company show that in respondents' view, alignment and every day work have the lowest desirability in comparison to the other factors. Therefore it is necessary to pay more attentions to these dimensions. Regarding the actions done in the field of the five dimensions of strategic management we faced a similar pattern. So that the situation of alignment and every day work are evaluated unsatisfactory in terms of efficacy. Furthermore findings show that dimensions that have unsatisfactory implementation status don't have an optimal effectiveness either. In other words, if complete and appropriate actions are not taken in the implementation step of strategic management, this will ultimately reduce the effectiveness of these actions.

Since the findings show that in the studied company the dimensions of alignment and every day wok do not have a satisfactory status in both implementation and effectiveness, it was required to examin these dimensions more closely.

4.3. Alignment Measures

For evaluating strategic management performance, it is required to measure the organization's alignment in strategic management implementation and achieving the determined objectives through strategic actions and projects.

For this purpose, with the use of traffic light and quantifying objectives and processes and strategic projects as it will be explained later, the organization's strategic plan's performance can be analyzed.

4.3.1. Description of Alignment Measurement Mechanism

Balanced scorecards include extracted strategic goals which are important for the organization, measure or whatever the goals can be measured by them, are defined in these cards. More than a measure can be defined for a single strategic goal, and for each measure a dimension or a counting unit is determined. Then the responsible unit for improving the measure and thus the strategic goals improvement will be determined.

Maybe it will be required to define a project for improving or even evaluating the measures, which will be called strategic projects or actions. Measures and projects based on their access level to goals and their improvement based on plan, have specific colors in Balance Scorecards. Measures and projects which are marked in red have significant distance to strategic plan (more than 90% of deviation) Measures which are displayed in yellow have a slight gap (less than 10% od deviation) and those marked in green report an appropriate situation (without deviation and appropriate process of goals or improvement based on projects plans)It is necessary to remind that measures are displayed in green ,yellow and red in different situations but projects are only visible in green and red status. An indicator which is plan to show improvement in Balanced ScoreCard is the number of green measures and projects divided by the subtraction result of the total number of projects and measures from yellow measures, which is shown by I_{TLR} and is calculated based on the bellow formula:

Formula1-Traffic Light Report Indicator

$$\mathrm{I}_{TLR} = \frac{\sum_{i'=1}^{n'} wi' + \sum_{j'=1}^{m'} wj'}{(\sum_{i=1}^{n} wi + \sum_{j=1}^{m} wj) - \sum_{i''=1}^{n''} wj''}$$

j =projects; i = indicators; J' =green projects; i' = green indicators

i'' =yellow indicators; n =number of total indicators; m =number of total projects

n' = number of green indicators; m' =number of green projects; n'' = number of yellow indicators

As it was mentioned previously, this index shows the percentage of green indicators in the company's traffic light. And ideally the more indicators are inclined to 1 or 100%. The more the company's traffic light has improved. Based on the fact that the indicators are monthly targeted, and the projects improvement are assessed monthly, the TLR index can be calculated monthly. The trend for 2011 is shown in the table below.

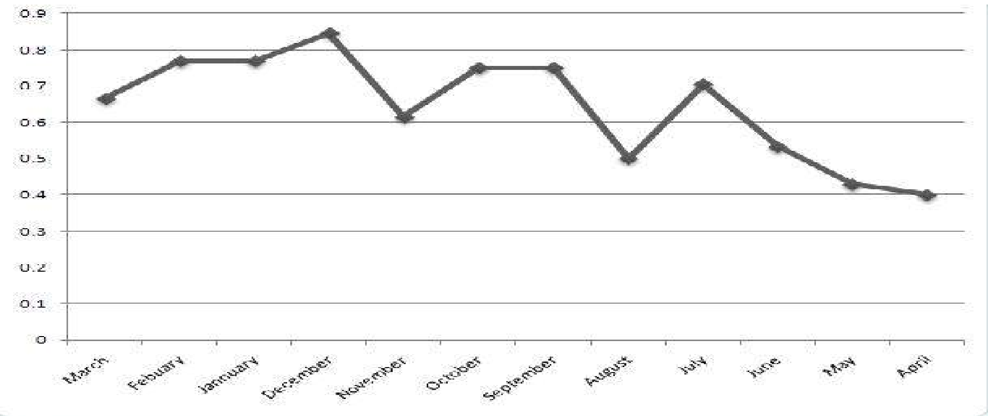

Figure 1. TLR Indicator Trend

In the last months of the year, due to the volume of activities related to the end of the year especially financial activities, the information was not provided for balanced scorecard committee on time, and some information like information related to the electric market activity, was not presented. That is why the TLR index does not have an appropriate trend. Another analysis which can be found in company's TLR, is the progress trend of the mentioned indicator for the company's major activities. In the TLR index of company's planning activities there are not much fluctuation, only index decrease from November to February and its increase after that, is visible About the development and construction activities, after the index growth in a seven months period, it is reduced. There is so much fluctuation in financial activities, the only time the financial indicators show a good status, is in June and July. In operating activities, there is so much fluctuation in color index. In this activity the process has always been between the minimum and the maximum but it was never one or zero in human resource activity, in half of the year, the index is zero and it indicates that there have not been any green indicators in these months.

Generally except for the planning activities, in all the other activities the sharp decline of the color index is evident and the result is the overall decline of the color index in the studied company.

4.4. Company's Every Day Work Measurement

In order to evaluate the company's determination in doing its activities with strategic vision and pursuing strategic goals as the most important daily work, the minutes of the strategic management's committee of the company needs to be investigated and the state of fulfilling the decisions taken at the meetings and senior management determination to implement the strategic decisions are examined.

With interviews and further investigation, some reasons for non-fulfillment of legislations on time were identified as follows:

- Not reviewing the minutes by members before attending the meetings and therefore forgetting the legislation;
- Not providing conditions for legislation's fulfillment;
- Other deputies not cooperating with the responsible deputy in implementing the legislation;
- Absence of members for explaining the legislation and not providing the committee's secretary with the result of the legislation;
- Optimistic prediction about the related legislation.

5. Conclusion

The investigation of the minutes of the Balanced ScoreCard committee in 2011 showed that more than half of the legislation was implemented in the expected time. Although the overall result seems desirable, not fulfilled legislations and the ones implemented with delay had an adverse effect on individual's satisfaction in the company.

On the other hand with comparing the TLR index and the minutes of the Balanced ScoreCard committee, it is concluded that, however almost all of the committee's decisions were implemented on time, they were not the ones which could improve the TLR index. This is either due to the inappropriate objectives or indicators in the traffic light report, or the items discussed in the Balanced ScoreCard committee include routine cases rather than strategic and important ones.

In the opinion of the organization's senior managements' point of view some of the major problems were as follows:

1. The indicators are not in line with organizational realities;
2. The custodian of some objectives are not appointed correctly;
3. The low level of the organization is not participated in the strategic plan ideally.

With senior managers and board members' opinion, it was decided to review the organization's objectives and indicators and then each department must become responsible to define its own objectives, indicators and projects in line with organization's strategic goals and strategic teams within the unit must become activated and responsible for following- up the unit's strategies.

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The Role and Implications of the Added Value as an Indicator of Financial Performance

Cornelia Tureac[1]

Abstract: The added value represents the excess of income over the value of consumptions coming from third parties, respectively the wealth created by capitalizing the technical, human and financial resources of the company. The economy is an established running after the optimal decision; so there cannot exist and economy without leadership, so there cannot be leadership without analysis, respectively the analysis of added value. This paper deals with a comparative analysis of three years, ie 2010 – 2012, of the added value from within Thomson Logistic Ltd which has 3 working points in Galati, Ploiesti and Targul Neamt. The analysis of added value is important both from the company's manager as an indicator for financial performance, and in terms of tax which is an indicator in the system of taxation. The methodology of this paper can be found in the use and application of the economical and financial analysis in order to perform an analysis of the added value that expresses the increase of wealth that is achieved through technical and productive activity. More specifically there were analyzed the added value, expenses of added value nature, structure of added value, growth indices of the corresponding elements of VA and the analysis from factorial point of view of the added value. In conclusion the growth rate of added value exceeded in dynamic the production value of the exercise (77.7>66.81; 31.21>31.17) because the intermediate consumption from third parties increased in 2011, and the added value decreases to an percentage of 22.30 % compared to the basis year in 2010. The result of exploitation had a decisive contribution to the decline in the added value, registering a drop of 88.05 % compared to 2011, respectively from 11705.2 Ron to 1399 Ron in 2012.

Keywords: added value; costs; result of exploitation; decrease

JEL Classification: M41

1. Introduction

The economy is an established running after the optimal decision; so there cannot exist and economy without leadership, so there cannot be leadership without analysis, respectively the analysis of added value. The economic and financial analysis has three main features that must be absolutely taken in highlight: the necessity, utility and perfectibility.

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AUDŒ, Vol. 10, no. 1, pp. 26-36

The added value is one of the most important indicators of reflecting the economical and financial performance of the company. Based on the added value it is considered that it can be appreciated the true size of a company, it being the expression of its role. The added value is the excess of receipts over the value of consumptions from the third parties, created by capitalizing the technical, human and financial resources of the company.

The analysis of added value is important both from the company's manager as an indicator for financial performance, and in terms of tax which is an indicator in the system of taxation.

2. Used Methodology

This paper deals with a comparative analysis of the added value on three years, respectively 2010, 2011 and 2012, of the added value from within Thomson Logistik Ltd which owns three working points in Galati, Ploiesti and Targul Neamt.

The methodology of this paper can be found in the use and application of the economical and financial analysis in order to perform an analysis of the added value that expresses the increase of wealth that is achieved through technical and productive activity.

Te added value can be determined by two methods, as follows:

a) Synthetic method, according to which the total volume of the production and commercialization activity of the company in question, are decreasing the consumptions from third parties. For the case in which the company carries out only the production activity, the added value is determined as follows:

   $VA = Q_e - M$, in which:

- Qe is the production value of exercise;
- M is the intermediate consumption. These include the expenditure for acquiring the material resources

If the company carries out and the commerce activity, in addition to the production activity, then the added value is calculated as:

$VA = (Q_e + M_c) - M'$, in which:

− M_c is margin trading;

− M' are the intermediate consumptions from third parties.

The distribution method (additive), which stipulates that the added value is the result of summing the following elements: wages and contributions concerning the insurances and social protection, provisions afferent to exploitation, interests, taxes and duties, depreciation, recalculated exploitation result.

Approaching the added value according to this method, results that is serves to compensation of the employees, shareholders, state, financial institutions, etc.

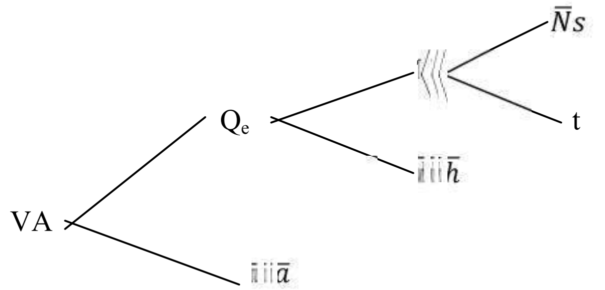
3. The Factorial Analysis of Added Value

Another aspect of studying the added value refers to the factorial analysis which allows to highlight the factors that determined its modification as well as and the directions in which it must be acted in the future.

From factorial point of view the added value can be analyzed based on the model:

VA = $\overline{N}s * \frac{Qe}{\overline{N}s} * \frac{VA}{Qe} = \overline{N}s * \overline{wh} * \overline{va}$ - where:

Q_e – production value exercise



where: Q_e – production of exercise ($Q_e = T * \overline{wh}$)

T - total work time;

$\overline{W}a$ – annual average productivity, determined on the basis of exercise of production, ($\overline{W}a = \frac{Qe}{\overline{N}s}$);

$\overline{wh}$ - average hourly productivity, determined on the basis of the exercise;

$\overline{N}s$ – average number of staff;

t – average number of hours per employee;

$\overline{va}$ - Average added value at 1 Ron production of the exercise

4. Results

Table 1 Analysis of Added Value and Production of Exercise

Nr.crt.	Indicators	Years			Indices (%)		
		2010	2011	2012	3/2	4/2	4/3
0	1	2	3	4	5	6	7
1	Qe	33183	73036.6	22770	22.10	68.61	31.17
2	VA	17442	43417.4	13553	248.92	77.70	31.21

$VA = Qe + MC – Ci$

VA_{2010}= 33183 – (6214+ 315+748+8464) = 33183 – 15741 = 17442

VA_{2011}= 73036.6 – (11648+681.2+1833+15457) = 73036.6 – 29619.2 = 43417.4

VA_{2012}= 22770 – (3750+815+619+4033) = 22770 – 9217 = 13553

The added value increased with 148.92% in 2011 compared to the base year 2010 and in 2012 decreased by 22.30% compared with 2010. The growth rate of added value exceeded in dynamic the production value of exercise (77.7>68.61; 31.21>31.17) because the intermediate consumptions from third parties increased in 2011.

It is recommended a decrease of staff and transport costs in a specified period that must not exceed the revenues collected during that period; therefore it is putting greater accent regarding the correlation of revenues and expenditures from within the analyzed company.

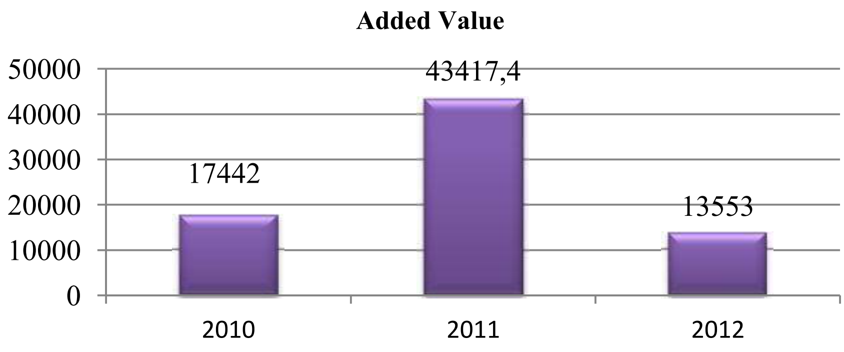


Figure 2. Comparative Analysis of the Structure of Added Value on the 3 Years

No	Indicators	Year			Structure of VA			Δ	%
		2010	2011	2012	2010	2011	2012		
1	Costs with wages	8064	15943.2	5255	46.23	36.72	38.77	-10688.2	32.96
2	Taxes and duties afferent wages	2486	4797	1886	14.25	11.04	13.91	-2911	39.31
3	Total expenditure with staff	10550	20742.2	7141	60.48	47.76	52.68	-13599.2	34.43
4	Depreciatio n	6763	10912.2	4872	38.77	25.14	35.94	-6040.2	44.65
5	Other expenditure of VA nature	54	59.8	141	0.32	0.14	1.05	88.2	235.79
6	The result of exploitation	75	11705.2	1399	0.43	26.96	10.33	-10306.2	11.95
7	VA	17442	43417.4	13553	100%	100%	100%	-29864.4	3.12
8	Qe	33183	73036.6	22770				-50266.6	31.18

Other expenditure of VA nature = VA – Staff expenditure – Am – Rez.$_{expl.}$

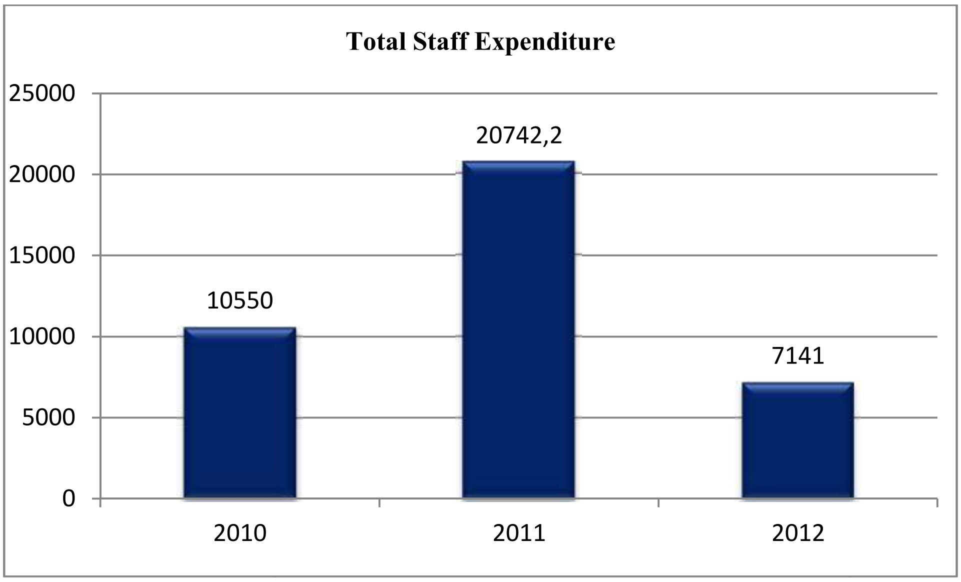
Other expenditure of VA nature $_{2011}$= 174442 – 10550 – 6763 – 11705.2=59.8

Structure of VA:

$$\text{Total expenditure with staff}_{2010} = \frac{10550}{17442} \bullet 100 = 60.48\%;$$

$$\text{Total expenditure with staff}_{2011} = \frac{20740,2}{43417,4} \bullet 100 = 47.76\%;$$

$$\text{Total expenditure with staff}_{2012} = \frac{7141}{13553} \bullet 100 = 52.68\%$$



Figur3. Total Expenditure with Staff

Depreciation:

Depreciation $_{2010} = \frac{6763}{17442} \bullet 100 = 38.77\%$; Depreciation $_{2011} = \frac{10912,2}{43417,4} \bullet 100 = 25.14\%$

Depreciation $_{2012} = \frac{4872}{13553} \bullet 100 = 35.94\%$

Other expenditure:

Other expenditure$_{2010} = \frac{54}{17442} \bullet 100 = 0.32\%$; Other expenditure $_{2011} = \frac{59,8}{43417,4} \bullet 100 = 0.14\%$

Other expenditure $_{2012} = \frac{141}{13553} \bullet 100 = 1.05\%$

Result of exploitation:

Result of exploitation $_{2010} = \frac{75}{17442} \bullet 100 = 0.14\%$;

Result of exploitation $_{2011} = \frac{11705,2}{43417,4} \bullet 100 = 26.19\%$

Result of exploitation $_{2012} = 10.33\%$

Expenditure with wages:

Expenditure with wages $_{2010} = \frac{8064}{17442} \bullet 100 = 42.23\%$;

Expenditure with wages $_{2011} = \frac{15943,2}{43417,4} \bullet 100 = 36.72\%$

Expenditure with wages $_{2012} = 38.77\%$

$$\frac{2012}{2011} = \frac{5255}{15943,2} \bullet 100 = 32.96\%$$

Taxes and duties afferent to wages:

$2010 = \frac{2486}{17442} \bullet 100 = 14.25\%$; $2011 = 11.04\%$; $2012 = 13.91\%$

Δ (comparison of the last two years)

Salary expenditure decreased with 10688.2 Ron from 2011 in 2012, and in percentage the added value decreased with 67.04%.

Taxes and duties decreases with 2911 Ron in 2012 compared to 2011, and in percentage with 60.69%.

Staff expenditure decreased with 13599.2 Ron and with percentage of 65.67%

The depreciation decreased with 6040.2 Ron and in percentage with 55.35%

Other expenditure of VA nature increased with 81.2 Ron, and in percentage increased with 135.79%

The result of exploitation decreased by 10306.2 Ron, in percentage it has decreased with 88.05 %

VA decreased with 29864.4 Ron, and in percentage with 96.88%

Q_e decreased with 50266.6 Ron, and in percentage with 68.82%.

These data must be interpreted in the light pf the correlations between the growth indices of the corresponding elements of VA (added value):

- $I_{Ch.\ sal.} < I_{Qe}$ 44.65>31.18 it is an unfavorable situation because the index of salarial expenditure exceeds the index of revenues from the achieved production
- $I_{Am} < I_{Qe}$ 55.35>31.18, it is an unfavorable situation because it has been invested more than it was produced

Table 3. Analysis of Added Value from Factorial Point of View

No.	Indicators	Simbol	2010	2011	2012
1	Production value of the exercise	Qe	33183	73036.6	22770
2	Expenses with materials	Mat	6529	12329.2	4565
3	Average number of employees	[illegible]	35	48	33
4	The total fund of working time	T	95200	120560	80760
5	Average number of hours per employee	t	2720	2512	2447
6	Average productivity per hour	[illegible]	0.3485	0.6058	0.2819
7	Average added value at 1 Ron output per product	$v\overline{a}$	0.5256	0.5944	0.5952
8	Added Value	VA	17442	43417.4	13553

$T = \overline{Ns} \bullet t$ (average number of hours per employee= hours x woking days)

$$t = \frac{T}{\overline{Ns}} \Rightarrow t_{2010} = \frac{95200}{35} = 2720$$

$$\overline{Wh} = \frac{Qe}{T} \Rightarrow \overline{Wh}_{2010} = \frac{33183}{95200} = 0.3485$$

$$\overline{Wh}_{2011} = \frac{73036,6}{120560} = 0.6058 \; ; \; \overline{Wh}_{2012} == 0.2819$$

$$\overline{va} = \frac{VA}{Qe} \Rightarrow \overline{va}_{2010} = \frac{17442}{33183} = 0.5256$$

$$\overline{va}_{2011} = 0.5944 \, ; \; \overline{va}_{2012} = 0.5952$$

It will be used the model: $VA = \overline{Ns} \bullet \frac{Qe}{\overline{\overline{Ns}}} \bullet \frac{VA}{Qe}$

Comparing the last two years: $\Delta VA = VA_1 - VA_0 = 13553 - 43417.4 = -29864.4$

1) Influence of the number of employees

$$\Delta VA_{(\overline{Ns})} = \overline{Ns}_1 \bullet \frac{Qe_0}{\overline{\overline{Ns}}_0} \bullet \frac{VA_0}{Qe_0} - \overline{Ns}_0 \bullet \frac{Qe_0}{\overline{\overline{Ns}}_0} \bullet \frac{VA_0}{Qe_0} = (33 - 48) \bullet \frac{73036.6}{48} \bullet \frac{43417.4}{73036.6} =$$
$$= -13566.5856$$

Influence of $\frac{Qe}{\overline{\overline{Ns}}}$

$$\Delta VA_{\left(\frac{Qe}{\overline{\overline{Ns}}}\right)} = \overline{Ns}_1 \bullet \frac{Qe_1}{\overline{\overline{Ns}}_1} \bullet \frac{VA_0}{Qe_0} - \overline{Ns}_1 \bullet \frac{Qe_0}{\overline{\overline{Ns}}_0} \bullet \frac{VA_0}{Qe_0} = 33(690 - 1521.6) \bullet 0.5944 = -16312$$

Influence of $\frac{VA}{Qe}$

$$\Delta VA_{\left(\frac{VA}{Qe}\right)} = \overline{Ns}_1 \bullet \frac{Qe_1}{\overline{\overline{Ns}}_1} \bullet \frac{VA_1}{Qe_1} - \overline{Ns}_1 \bullet \frac{Qe_1}{\overline{\overline{Ns}}1} \bullet \frac{VA_0}{Qe_0} = 33 \bullet 690(0.6 - 0.6) = 0$$

Verification:

$$\Delta VA = \Delta VA_{(\overline{Ns})} + \Delta VA_{\left(\frac{Qe}{\overline{\overline{Ns}}}\right)} + \Delta VA_{\left(\frac{VA}{Qe}\right)} = -13566.5856 - 16312 = -29878.6$$

After the analysis of added value results that in the future there must be taken a number of measures such as: the organization, work and creating favorable working conditions for the workers left.

5. Conclusions

The process of economic and financial analysis is the reverse of the real evolution of the studied phenomenon. The analysis starts from the results of the closed process towards elements and factors, proceeding to the decomposition of the whole into its component parts.

The process itself has an evolutionary character and consists in unitary combining of the results of the analysis with the synthesis, which gives content, and it is conditioning the scientific character of the analysis.

The added value expresses better than any indicator the efficiency of combining the production factors: work and capital. The added value is the expression of wealth created by a company, a wealth that is distributed between five partners and namely: staff, state, the creditors, shareholders and the company.

Tool of management, in this case the economical and financial analysis is to provide information for the decisional process at all hierarchical and organizational levels; substantiates the operational, tactical and strategic decisions. The quality of a decision is influenced decisively by volume, quality, efficiency and opportunity of information provided by the analysis.

The added value is one of the most important indicators of reflecting the economic and financial performance of a company. Based on the added value is considered that it can be appreciated the real dimension of company's activity, it being the expression of its role. The added value is the excess of receipts over the value of consumptions from the third parties, created by capitalizing the technical, human and financial resources of the company.

One aspect of studying the added value refers to the factorial analysis which allows to highlight the factors that determined its modification as well as and the directions in which it must be acted in the future.

In conclusion the growth rate of added value exceeded in dynamic the production value of the exercise (77.7>66.81; 31.21>31.17) because the intermediate consumption from third parties increased in 2011, and the added value decreases to an percentage of 22.30 % compared to the basis year in 2010.

From the point of view of comparative analysis of the structure of the added value on the last two years there were found the following:

- The salary expenditure decreased by 67.04%;
- Taxes and duties decreased as percentage with 60.69%;
- Expenditure with staff decreases by 65.67%;
- Depreciation decreased as percentage with 55.35%;
- Other expenditure of the nature of added value increased as percentage with 135.79%;
- The result of exploitation decreased with 88.05%;
- The added value decreased with 96.88%;
- Production value of exercise decreased as percentage with 68.82%.

What led to the decrease of added value is explained because:

- The staff expenditure recorded a decrease from 20742.2 from 2011, to 7141 in 2012, respectively with 65.67%l;
- The depreciation expenditure decreased with 55.35%;

- The result of exploitation had a decisive contribution at the decrease of the added value, registering a decrease from 88.05% compared to 2011, respectively from 11705.2 ron to 1399 ron in 2012.

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Contextual Reference of Gandhian Philosophy in Human Resources Management Practices

Kuppannagari Venkata Suryanarayana Patnaik[1], Gudivada Venkat Rao[2]

Abstract: India is a land of philosophers; Gandhi is a reformer and a modern philosopher who invented tools to inspire the masses. These tools find relevance in present day, Gandhian Philosophy is based on the four pillars; Truth, Non-Violence or Ahimsa, Self-Respect and Satyagraha. He practiced and preached the life of austerity, humbleness and truth. His philosophy of simple living and high thinking attracted the peasants, humbled the mighty and the rich. The present paper analyses the application of the principles in the present context with respect to human resources practices. The present global context requires inspirational leadership style with appropriate strategy; Gandhiji is the best strategist with follower centric approach. The human resource management practices were linked with human factor theory and defined as a bundle of practices. The strike as a right, collective bargaining, arbitration and self-introspection were some of his contributions.

Keywords: human resources management; self-introspection; Gandhian philosophy; collective bargaining; inspirational leadership

JEL Classification: M54

1 Introduction

The 19th century has seen the birth of leading humanists; the age old traditional philosophy was molded to oppose the oppression of the colonialism. The leading luminaries of that age fought the colonialist and brought transformation in the societies ridden with inhumanism, casteism and exploitation. The Industrial revolution has transformed the society from agrarian to industrial. Gandhism flourished during this transformation period. Gandhism started with a purpose, aim and objective. The genius learned the art of living with reality. The art of living with reality is an experiment; the fruits of these experiments are the philosophy. The philosophy easy in language but has in-depth meaning comparable to the slokha's of Upanishads. The religious literature created a mindset which can be

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easily made applicable to reality. Gandhism is a way of life, easy to think but requires tremendous commitment. Gandhi was born on 2nd October, 1869 in Porbandhar; he practiced the life of austerity, humbleness and truth. His simple living attracted the peasants, humbled the mighty and the rich. Prof. Gilbert Murray, a British classical scholar, says “a modern genius of world significance and that for every oppressed nationalist in every continent, he became a champion, a matinee idol”.

An individual difficult to understand and he may be categorized as a religious, labor and political leader and also an apostle of peace; admired as the path finder for downtrodden and underprivileged and has been hailed as the undisputed leader of India’s struggle for freedom. The spiritual and religious leaders like Gautam Buddha, Lord Jesus Christ, Mahavira, Vivekananda and Mahatma Gandhi had practiced and preached the gospel of truth, love and non-violence. They applied these principles to leverage the human welfare and values with gospels and thereby bring peace, harmony and co-existence. The miseries of the life are due to non-acceptance and practice of these truths. The roads chosen to attain these goals by the practioners are different. But for accomplishing their mission each has chosen his own path. The path chosen by Gandhi came to be known as Gandhian thought or Gandhism.

Human Resources Management is defined as human capital; this perspective considers human competencies as resources of the organization (Hamel & Prahalad, 1990). Elton Mayo has concluded that human factor and its manifestation is human relations movement. This human resource management practices were linked with human factor theory and defined as of bundle of practices (i) career system (ii) work system (iii) development system (iv) self-renewal system and (v) human resources development system. The Human Resource Management is that part of management associated with working of human capital.

2 Gandhian Philosophy

The Gandhian philosophy is based on the four pillars:

1. Truth;
2. Non-Violence or Ahimsa;
3. Self-Respect and
4. Satyagraha.

2.1 Truth

The meaning of truth has the same connotation as the dictionary meaning i.e. seeking the cause. But, to him it is more than simple finding of the cause, self-realization. The truth and its laws are universal. The truth is powerful and it is the ultimate winner. The application of truth in daily life improves purity of heart and it ultimately results in self- realization. Gandhi once said: "Politics bereft of religion is death trap. Religion to him was first humanity and omnipresent God, while God for him was another face of the truth. Therefore, the manifestation of Politics or Religion is god."

2.2. Non-Violence or Ahimsa

Non-violence is the principle hallmark of his philosophy. The ahimsa is a weapon or tool to win over the enemy. The ahimsa is not attained through preaching but only through practice. The ahimsa has a religious and political meaning.

2.3. Self-Respect

Gandhian self–respect means upholding ones' right. The meaning here includes righteousness and protecting our atma gauram.

2.4. Satyagraha

Satyagraha means passive resistance, a proactive approach to goal attainment. The term satya means truth, graha means realization.

3. HRM Concepts and Gandhi Philosophy

Gandhian philosophy is based on humanistic approach, Mahatma Gandhi is known as social engineer and social innovator with his own set of mindset. Gandhian practices are time tested. According to C.K. Prahalad (2006) "Gandhi taught us the concept of clarity of goals and so we had to invent the ways and means to inspire the generations to change India, in the same fashion as he inspired".

The application of his practices to human resource management started with his initiation. The exemplary strike in Ahmedabad is the beginning of his experiments; he applied the principles in practice to prove his point. The Human Resources Management is not redundant and open to experiment with his principles; some of these may be extracted as:

- Strike and Satyagraha;
- Ownership and Trusteeship;
- Conflict Resolution and Non-Violence;
- Collective Bargaining and Middle path;
- Trade Unionism and Unity;
- Self-Realization and Understanding;
- Self-Introspection and Human Resource Development;
- Wages and Equal Sharing;
- Ethics and Values.

3.1. Strike and Satyagraha

The strike as a right is recognized by the Industrial Dispute Act, 1947. The strike is legal only if it is conducted in peaceful manner. However, the right to demonstrate, abstain from work under common agreement is a Gandhian principle legalized by Indian legislation. But, Gandhi laid principles for calling a strike: a) don't idle during strike period b) search for alternate source of livelihood before striking c) call for strike based on majority opinion. Further, he advocated Satyagraha marg to achieve just demands of the employees. During those days strike is not legalized in industries.

3.2. Ownership and Trusteeship

The owner is a trustee or custodian of the assets and the worker is an equal in the trust. But, a controversy rages regarding whether Gandhi authored trusteeship or not. Some authors attribute the theory to the managing practices of Sabarmati Ashram and Tolstoy Farm (South Africa). The worker has a right to claim from the trust on equitable basis, the concept of worker director (worker's nominee to the board) sounds similar.

3.3. Conflict Resolution and Non-Violence

The Gandhian principle of non-violence has relevance in the present day work context. The recent industrial violence (Regency Ceramics, Maruti Suzuki) is a testimony to manifestation of violence. The increasing globalization has made markets as localization meaning global presence in local market. This factor increased competition and which ultimately influenced change in mindset of the parties i.e. employers and employees to pursue a path of mutual acceptance, collaboration and middle path. He suggested shunning violence and resolving conflict with mutual acceptance. Gandhi proposed win- win positions for conflict resolution, a strong proponent of arbitration for peaceful resolution of conflict. Arbitration as an alternative dispute mechanism was legalized by labor law legislation (Section 10A of Industrial Dispute Act, 1947).

3.4. Collective Bargaining and Middle Path

The collective bargaining has been the hallmark of his negotiation style. The collective bargaining is a recognized means for settlement of disputes and prevention of disputes, the directive principles of state policy directs the state towards proposing such legislation. The Gandhian style of putting demands and ultimately compromising for justifiable solution is the trend in the present context. The workers shall negotiate with more than reasonable demand and never settle for less than minimum just demand. He suggested the policy of stepping down demands by both the employers and workers to arrive at reasonable just settlement i.e. middle path.

3.5. Trade Unionism and Unity

The trade union movement was given impetus by Gandhi, his efforts at organizing unions is a trade mark which ultimately recognized the principle unity wins. The entry of Gandhi into labor movement during 1920's has engraved a new path in settling dispute. A strong proponent of collective bargaining, and pushed for with win-win settlement and not to compromise employer or employees' interests.

3.6. Self-Realization and Understanding

Gandhi urged to realize oneself from his experiences; self-realization is the best method for behavioral corrections and awareness of self.

3.7. Self Introspection and Human Resource Development

The self-introspection principle is related to SWOT analysis. The SWOT Analysis method is an important tool to build competencies of the human resources. Maria "Gandhi's style of leadership as applied to corporate India would involve making even the lowest person in the organization believe in it and the significance of his contribution towards it."

3.8. Wages and Equal Sharing

The middle path suggested by Gandhi is an important methodology in fixation of wages. The owner is a trustee who shares the fruits of labor equally with the workers; the equal share is the middle path. The core values build the culture of the organization; the values are influenced by the ethics. The organization creates these values to show its sincerity to the society. Arindam Chaudhuri has propagated the Theory 'I' management as India-centric management and concluded Gandhi as the best practicer. His leadership style is dependent on the circumstances. In India, he used Khadi style whereas in South Africa he launched the same Satyagraha with suit. The democratic style with more importance to followers is found in his strategy. Gandhi applied different strategies to suit the requirements, the same was suggested by Blue Ocean Group as Reconstructionist Strategy and hence it is a lesson to human resource practioners.

3.9. Ethics and Values

The above principles are invariably connected with human resources development. In today's turbulent industrial setting the linkage of Gandhian ideology to HR practices is expected to give human touch with self–development and ultimately industrial harmony. The organization development is also likely to be achieved with application of the above principles. The economic, social, political factors of Gandhian era are different in comparison with present liberalization, globalization and privatization period.

4. Conclusion

The post globalization phase was an important chapter in Indian economic history. The redundancy of existing policies to face competition was a subject open for discussion, but economics out of philosophies and ideology may be replicated or tried with the current terminology. Gandhian Philosophy of peaceful co-existence is wonderful tool to bring humane face to current economic problems. Further, managing the human and workers problems on account of globalization is a priority. Therefore, an attempt is made to bring a comparative linkage between Human Resources Practices and Gandhian Ideology.

The selection process, collective settlement and trusteeship find a place in management practices. Therefore, his philosophy is relevant to Human Resource Management function. These principles are intertwined with the development and conceptualization of Human Resources practices.

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Education Marketing; Examining the Link between Physical Quality of Universities and Customer Satisfaction

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Abstract: The relevance of service environment in the delivery of quality services can not be over emphasized. The simultaneity of production and consumption of services makes it necessary for the students (consumers) to be in the servicescape. This unique feature makes qualitative infrastructure and enabling environment very crucial for quality delivery system. Educational services must embrace quality delivery system if it must remain the platform for true and sustainable development. This study explores the link between the physical quality (enabling environment) of Nigerian Universities and customer satisfaction. Survey method and stratified sampling technique were employed for this study. Nine Universities were selected proportionately from Private, State and Federal Universities in south west, Nigeria**.** Two hypotheses were raised in the study. Descriptive statistics, ANOVA and regression analysis were employed for the test of the hypotheses. The findings revealed that there were significant differences among the three categories of Universities in terms of their physical quality imperatives. It was also confirmed that physical quality has significant effect on customer satisfaction. It was therefore recommended that concerted efforts must be made by the education stakeholders to invest on improving the infrastructural facilities of the Universities for better positioning in the global market place.

Keywords: Physical quality; Customer satisfaction; Nigerian Universities

JEL Classification: M3; I2

1. Background of Study

Privatization, diversification, decentralization, internationalization and increased competition in higher education and other market forces have caused institutions of higher education to reorganize themselves to be more sensitive to “market needs” (Maringe, 2006). Since the 1980s, Universities in many countries have shifted from elite to mass higher education. During periods of economic constraints, public Universities continuously experience pressures from governments to demonstrate

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maximum outputs from their allocated financial inputs. In line with the global and national economic challenges, cuts in University funding seem to be “inevitable”. The shift has been accompanied by a wave of managerialism, including the following: corporate managerialism, commercialization of research, and the commoditization of knowledge (Mok, 2000). These changes have an effect on how higher education institutions operate nowadays and they are seen as the driving forces for the marketization of higher education (Maringe, 2006).

Higher education institutions are rapidly changing as a result of the dynamic national, regional and global developments. Marketing theories and concepts, which have been effective in business, are gradually now being applied by many Universities (Brown & Oplatka, 2006; Temple & Shattock, 2007) with the purpose to gain competitive advantage. Service quality issues have, however, remained a key focus facing stakeholders within Higher Education-students, staff (academic and support), employers, and other clients. There has been a consensus on the importance of service quality issues in Higher Education. However, the identification and implementation of the right measurement instrument remains a challenge to the practitioners.

National Universities Commission is the accrediting and regulatory body responsible for maintaining quality among the Nigerian Universities. However, in today’s world of business, the role of customer in the determination of service quality can not be overemphasized. In the same vein, the technical aspect of quality is being addressed by the regulatory body; we should not loose sight of the user-based approach of service quality maintenance. Zeithaml and Bitner observed that quality has always been referred to as not just what the service provider puts into the service but what the customer gets out of the service. (apud Al Khattab & Aldehayyat, 2011) If there is any sector in Nigeria that demands the attention of all and sundry, it is the quality standard of education.

2. Statement of Research Problem

Meanwhile, Alfa (1993) has earlier reported that the challenges facing Nigerian Universities are complex. According to him, it is a combination of limited access, increasing cost, decreasing quality and inflexibility in course selection. He further noted struggling economies, outdated academic equipments and obsolete organizational structure are among the issues facing University education in Nigeria today.

According to Uche, Okoli and Ahunanya (2011), an important component for assuring the quality of higher education is physical quality, apart from the teacher and students input. This is because the operations of staff and students could be worthless if adequate preparation is not made for relevant facilities, equipment and other relevant materials are not made available for the users. Meanwhile, Erinosho (2008) observed that the rapid expansion of Universities is at a price to the nation. According to him, the physical facilities of many public Universities are grossly inadequate and/or in a state of disrepair. Many Nigerian Universities' libraries are bereft of leading international journals and new books while the quality and quantity of teachers are not adequate. Many of these Universities also lack adequate modern information and communication technologies. He further stated that although the Government is determined to license as many of private Universities as presumably meet the set conditions, it is doubtful whether they have the capacity to fill the gap that is being created by the poor state of public Universities. It is as a result of this that the study is centered on the following objectives;

3. Objectives of the Study

1. To examine and compare physical quality imperative of public Universities (federal and state) with private Universities in South West, Nigeria and vice versa.
2. To determine the effect of Physical Quality imperative on customer satisfaction.

4. Literature Review and Development of Hypotheses

4.1. Physical Quality

From the relevant literatures, physical quality has been identified as an important dimension of service quality. As a result of the simultaneous production and consumption of most services, the environmental facility i.e. its servicescape can play an important role in the service experience. In fact, the physical environment is part of the product itself. Physical evidence serves as a visual metaphor of what the company stands for. Physical facilities and the enabling environment in general, portray the quality of the institutions in terms of their staff/students friendliness, attraction to outsiders, aesthetics, healthy, safety and relevance (Okorie and Uche, 2004). Unfortunately, in Nigerian Universities, facilities are not regularly monitored for maintenance, no rehabilitation, no renovation, no replacement and any regular supervision and inspection of materials. Uche, Okoli and Ahunanya (2011) lamented that facilities required for effective teaching and learning were not adequate and at the same time did not meet global standard. According to Osokoya (2007), Private Universities were not expected to be deficient of facilities since private higher institutions in Africa are established by some legal provisions which normally stipulate some minimum requirements for infrastructural facilities. In Nigeria, for example, a private higher institution is expected to be accredited by the Federal Government through its agency (NUC) before granting license to operate.

Based on the above discussion, this study attempted to find differences among the three categories of Universities.

Hypothesis

Ho: There are no significant differences among the Private, State and Federal Universities.

$H_{1:}$ T here are significant differences among the Private, State and Federal Universities.

4.2. Physical Quality and Customer Satisfaction

Hutton and Richardson (2004) found that the physical environment in a health care setting had a significant effect on customer satisfaction. A satisfied customer will possibly have positive intention to re-patronize and to recommend the service to other consumers. Customers have a high regard for a pleasant physical environment and express the satisfaction easily. According to Reimer and Kuehn, (2005), this is as a result of the fact that the servicescape has a direct and indirect effect on perceived service quality and ultimately the satisfaction of the customers. They further observed that Physical evidence influences the customer's perception of the quality of service. Reimer and Kuehn, (2005) are of the opinion that customers staying longer in a facility, like a University, emphasize the servicescape more in their perception of quality service. The customer can overlook a lot of quality issues if the physical environment is pleasing. Customers more readily recommend a physically pleasing environment to friends (Hutton and Richardson, 2004). As a communication tool: Physical evidence is particularly important as communication tool for services such as hotels, firms and theme parks that are dominated by experience attributes. Because services are intangible, customers often rely on physical evidence to evaluate the service before they purchase and to assess their satisfaction with the service during their pregnancy and after consumption (Zeithaml et al. 2006). Customers expect good service if the physical evidence is of high standard. Hoffman et al. (2005) say that due to the intangibility of services, customers often have trouble evaluating service quality objectively. Therefore they rely on physical evidence that surrounds the service to help them with their evaluation. This study attempted to examine the link between physical quality and customer satisfaction.

Hypothesis Two

Ho: Physical Quality does not have significant effects on Customer Satisfaction.

H1: Physical Quality has significant effects on Customer Satisfaction.

5. Methodology

Purposive and expost-facto research method was adopted for the study. The alumni involved in the study were those graduated between year 2003 and 2011. The first set of graduates from private Universities in Nigeria was released in year 2003 and that informed the choice of the year. The major source of data for this research was a set of questionnaire distributed to alumni of nine Universities in south west, Nigeria. These nine Universities were proportionately selected from private, state and federal universities in ratio 5-2-2. One hundred respondents were selected from each of the Universities. The questionnaire has three sections (ABC). The first section of the questionnaire dealt with demographic information of the respondents, while the second section of the questionnaire dealt with physical quality imperatives while the last section dealt with customer satisfaction.

Each question in section B was designed so that respondents could react to the degree of agreement to the issue being discussed as follows:

Strongly Agree=5; Agree = 4; Undecided= 3; Disagree= 2; Strongly Disagree=1.

Meanwhile, in section c, respondents were expected to options ranging from much less satisfied (1) to much more satisfied (5).

The key research variables were developed from extant literature and supported by empirical and anecdotal evidence. All the data analysis procedure was done using the SPSS computer package. Data analysis was executed at 95% confidence level or better. The statistics, measurement scale, data analysis, reliability and validity tests used in this research followed the research suggestions in extant literature (Nunnally, 1978; among others). The Cronbach's Alpha of the measurement scale for the study was found to be 0.875. In order to ascertain the validity of the research instrument, factor analysis was carried out. The minimum loading for the scale is 0.397 and the loading is as high as 0.776. The KMO measures of sampling adequacy are 0.880, and its Barlett's Test of sphericity is p=0.000. This result strongly supports the convergent validity of the items in the instrument.

6. Data Analysis and Discussion of Findings

Hypothesis One

Ho: There are no significant differences among the Private, State and Federal Universities.

H_1: T here are significant differences among the Private, State and Federal Universities.

Table 1. Physical Quality*Categories of Universities Cross Tabulation

STATEMENTS	FEDERAL UNIVERSITIES			STATE UNIVERSITIES			PRIVATE UNIVERSITIES		
	N	M	SD	N	M	SD	N	M	SD
The classrooms have up-to-date teaching support equipment	191	2.91	1.26	199	2.66	1.02	478	3.72	1.07
The University has modern laboratory with complete collection.	191	2.74	.95	199	2.37	.94	478	3.47	1.08
The University provides student health centres	191	4.45	.90	199	3.87	1.05	478	4.01	.81
The University has nice and pleasant campus environment	191	4.07	.94	199	2.92	1.08	478	3.87	1.08
The University is visually appealing	191	4.18	.64	199	2.81	.99	478	3.72	1.25
The University provides good and functional internet facilities	191	3.50	1.37	199	2.29	1.15	478	3.56	1.10
student accommodation is safe	191	3.25	1.25	199	2.39	1.09	478	3.80	.99
The University has sufficient residential accommodation	191	2.18	1.23	199	1.83	.94	478	3.79	1.06
The library has a wide range of book and periodicals in my area of studies	191	3.12	1.06	199	2.78	1.27	478	3.72	.96
The rooms in the student residential accommodation are comfortable	191	2.81	1.12	199	2.29	1.05	478	3.40	1.16
Adequate printer facilities are available	191	2.41	1.05	199	2.08	.91	478	3.44	.99
The campus computers are sufficient for the student population	191	1.57	.56	199	1.89	1.53	478	2.91	1.13
The University has plenty of sport facilities	191	3.60	.71	199	2.92	1.02	478	3.24	1.11
The sport centre offers modern equipment	191	3.34	.65	199	2.64	1.10	478	3.06	1.15
The University offers modern accommodation at affordable prices	191	3.07	1.17	199	1.83	.95	478	3.20	.99

The University provides adequate parking areas	191	3.77	.85	199	3.74	1.13	478	3.82	.94
The University has modern computers with the latest programmes	191	2.97	.65	199	2.45	1.23	478	3.18	1.05
The University has modern computers with the latest programmes	191	2.97	.65	199	2.45	1.25	478	3.19	1.05
Overall Mean		3.23	.78		2.58	.53		3.52	.72

Source: Researchers' Field Survey Result (2012)

The table 1 revealed that Private Universities have the highest mean value for Physical Quality. (3.52). Next to that was the Federal Universities that had the mean value of 3.23. These two categories of Universities were rated a little bit above average while the perceived physical quality of the state Universities were considered to be poor.

From the Federal Universities Alumni point of views, the campus computers were not sufficient for student population (1.57).The result also revealed that printing facilities were not adequate (2.41) and the Universities did not have sufficient residential accommodation (2.81). They also believed that the University did not have enough modern laboratories with complete collections (2.74) as well as up-to-date teaching support equipments (2.91).

However, the Alumni of State Universities believed that such Universities did not have conducive learning environment and so rated the physical quality generally below average (2.58). The alumni believed that there were no sufficient residential accommodations and that campus computers were not sufficient among other things. But, they believed that there were adequate parking areas and student health centers were also considered to be appropriate.

Private Universities on the other hand were perceived to be good in terms of its physical quality. Many of the items under physical quality were rated above average except that they believed that campus computers were not enough for student population. (2.91)

The hypothesis was further subjected to ANOVA tests. The tables below revealed the results of the ANOVA test.

Table 2a. ANOVA Summary for Physical Qualities of Universities

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	126.376	2	63.188	129.941	.000
Within Groups	420.634	865	.486		
Total	547.010	867			

Source: Researchers' Field Survey Result (2012)

The F-value is the Mean Square Regression (63.188) divided by the Mean Square Residual (0.486), yielding F=129.941. From the results, the model in this table 4a is statistically significant (Sig =.000). The implication therefore is that there are significant differences in the physical qualities of the three categories of Universities at $F_{(2,865)} = 129.941$.

Table 2b. Multiple Comparisons of Physical Qualities Based on Types of University

(I) category of the university	(J) category of the university	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Federal University	State University	.65545*	.07064	.000	.4822	.8286
	Private University	-.29283*	.05969	.000	-.4392	-.1465
State University	Federal University	-.65545*	.07064	.000	-.8286	-.4822
	Private University	-.94828*	.05883	.000	-1.0925	-.8040
Private University	Federal University	.29283*	.05969	.000	.1465	.4392
	State University	.94828*	.05883	.000	.8040	1.0925

*. The mean difference is significant at the 0.05 level.

Source: Researchers' Field Survey Result (2012)

Table 2c. Homogeneous Subsets Indicating Differences among the Categories of University

category of the university	N	Subset for alpha = 0.05		
		1	2	3
State University	199	2.5752		
Federal University	191		3.2307	
Private University	478			3.5235
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 242.860.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Source: Researchers' Field Survey Result (2012)

Table 2c revealed that each the physical quality for each of the types of Universities has its peculiarities and uniqueness. In other words, the possibility of differences exits among the three categories of Universities.

The findings of this hypothesis corroborated the findings of Olatunji, (2011) that compared public and private Universities in Nigeria. Although his work was limited to availability of computers and the quality of computer literacy (basic skills), he found out that there were significant differences between the two sets of Universities. He reported that private Universities were better than Public Universities in that regard. In the same vein, Kimani, Kagira and Kendi (2011) carried out a study that compared the business students perceptions of quality of services received at both private and public Universities in Kenya. They found out that there were differences between Private and Public Universities. Private University in a rural was found having most positive leading scores in service quality.

Hypothesis Two

Ho; Physical Quality does not have significant effects on Customer Satisfaction.

H1; Physical Quality has significant effects on Customer Satisfaction.

Table 3a. Model Summary for Physical Quality and Customer Satisfaction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.492[a]	.242	.241	.72820

a. Predictors: (Constant), Physical Quality

Source: Researchers' Field Survey Result (2012)

This study revealed that there is relationship between PQ and CS at r=0.492, R-Square is the proportion of variance in the dependent variable which can be predicted from the independent variable. This value indicated that there is variance of 24.2% between Physical Quality and Customer Satisfaction.

Table 3b. ANOVA Results for Physical Quality and Customer Satisfaction

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	146.554	1	146.554	276.372	.000[a]
	Residual	459.220	866	.530		
	Total	605.773	867			

a. Predictors: (Constant) Physical Quality

b. Dependent Variable: Customer Satisfaction

Source: Researchers' Field Survey Result (2012)

The F-value is the Mean Square Regression (146.554) divided by the Mean Square Residual (0.530), yielding F=276.372. From the results, the model in this table 5b is statistically significant (Sig =.000). The implication therefore is that physical quality has significant effects on customer satisfaction at $F_{(1,866)} = 276.372$.

Table 3c. Coefficients Result for Physical Quality and Customer Satisfaction

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.417	.104		13.632	.000
	Physical Quality	.518	.031	.492	16.624	.000

a. Dependent Variable: Customer Satisfaction

Source: Researchers' Field Survey Result (2012)

Table 3c revealed the extent of contribution of the predictor i.e. Physical Quality to customer satisfaction. (PQ; β =-0.518; t =-16.624; p<0.01) Since the significance level for the variable is less than 0.01, it was justified that the null hypothesis should be rejected while the alternative hypothesis is accepted.

7. Conclusion

The relevance of physical facilities can not be overemphasized. The major functions of higher education, that is teaching, research and community development will neither be effective nor efficient without quality facilities put in place. Physical evidence, as it is popularly referred to in marketing parlance, is a yardstick through which consumers measure or determine the quality of services received. Education services are public goods that have many stakeholders, however the alumni of the three categories of Universities were considered as customers in this study. The findings validated the fact that physical quality has significant effect on customer satisfaction.

8. Recommendations

Based on the findings of this research, it was recommended that all hands must be on desk in ensuring that physical facilities are in good state for effective teaching, learning and research developments. Stakeholders are expected to contribute meaningfully towards "marketisation" of higher education on the platform of physical evidence.

The University management should ensure that there is enabling environment for quality teaching, learning and research. Specifically, management of state Universities should strive to make available up to date teaching support equipments, modern laboratories and residential accommodation for their students. However, the managements of both private and federal Universities should improve on the existing facilities and ensure that good maintenance culture is imbibed by the students and staff of their Universities.

There is need for **government** to increase the allocation of funds to education in the national budget. Government should strive to improve on all the necessary physical facilities within the University system. Up to date teaching equipments, adequate internet facilities, modern library with adequate and modern books, adequate residential accommodation as well as functional health centre to mention but a few should be made available for quality educational services. Dilapidated equipments should also be repaired, refurbished and maintained

Employers must also be willing and ready to partner with the proprietors of these Universities by providing financial support for research development and quality learning. Employers could be more socially responsible for the quality of higher education given to the citizenry.

Parents must be willing and ready to incur necessary costs in ensuring that their children are given quality education. Parents, with their purchasing power, have the ability to encourage the Universities that are providing quality education through patronage.

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The Effect of Competitive Rivalry on Internal Communication in Private Healthcare Organizations: Evidence from Istanbul, Turkey

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Abstract: Both competitive rivalry and internal communication play a crucial role for a business to position itself in a favourable manner in order to succeed particularly in a hostile environment. While numerous studies present the importance of competitive rivalry and of communication, even internal communication separately, little is known about the specific linkage of how competitive rivalry affects communication in the literature. Within the framework of internal communication, this study focuses on the notion that competitive rivalry is related to the path and style of communication as well as to the usage of internal communication tools but not to quality of communication. Thus, our research presents the linkage and the interaction between competitive rivalry and internal communication, of which the results indicate that, overall, competitive rivalry has a significant direct positive influence on internal communication dimensions in terms of path, style and quality of communication, as well as usage of communication tools in healthcare organizations.

Keywords: interfirm rivalry; paths of communication; style of communication; usage of communication tools; quality of communication

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1. Introduction

Several studies have examined the central role that each of competitive rivalry and internal communication plays in the success of businesses separately. Traditional strategic analysis deeply examines the impact of competitive rivalry with a focus

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on a business' external conditions, which takes many different forms in an attempt to obtain an advantageous position including price discounting, advertising campaigns, new product launch, service improvements and warranty when a competitor feels pressured to increase sales or see an opportunity to improve its position (Porter, 1979), on its behaviours as well as organizational performance particularly in hostile situations (Sanzo & Vazquez, 2011). However, resource-based view of strategic management literature provides another focus on a business' internal resources and capabilities such as either primary (e.g., inbound logistics, operations, outbound logistics, marketing and sales, service) or support (e.g., administrative infrastructure management, human resource management, information technology, procurement) activities (Barney 1991; Grant 1991; Porter, 1985), as of integrated functions of a business across departments, which requires a well-working internal communication reflecting cross-functional communication and coordination (Padhy & Rath, 2006) to position itself in a favourable manner. However, with a perspective of external and internal environment in hand, both for a business to a better position, questions regarding whether competitive rivalry is related to internal communication, whether and how competitive rivalry affects internal communication remain unanswered. Thus, to better understand the relationship between competitive rivalry and internal communication, we analyse the relevant literature, develop a model and use statistical technics to test the relationships among the variables of competitive rivalry, the paths, style, usage and quality of internal communication.

2. Literature Review

2.1. Competitive Rivalry

From a strategic management point of view, it is crucial for businesses to position themselves in a very favourable manner in relation to industry structure and to employ better strategies in comparison to their competitors. This allows them to take action against each other to defend or improve their market positions by developing short or long term competitive advantages over their rivals (Porter, 1979; Ferrier & Lee, 2002; Sanzo & Vazquez, 2011; Gibb & Haar, 2010). In particular, the five-force model of Porter (1979) emphasizes the importance of positioning for a company relevant to the others in the same industry, which determines the potential for market profit (Sanzo & Vazquez, 2011) and shows us the intensity level of competitive rivalry within an industry (Ulgen & Mirze, 2010). With this perspective in hand, competitive (named also as interfirm) rivalry, as a subsequent domain of competitive dynamics, can be defined as the extent to which a focal firm faces intensive competition. This comes from others known to be in direct competition, industry leaders and primary challengers in order to expand its share of the value created by an industry (Ulgen & Mirze, 2010; Ferrier, 2001; Ferrier & Lee, 2002; Tavitiyamana et al., 2011).

The strategic management literature examines levels of competitive rivalry as a result of favourable and unfavourable external forces such as numerous and equally balanced competitors, slow industry growth rate, high fixed costs, high rate of fixed costs in total investments, standard and similar products/services offered by the competitors, low customer switching costs, easiness to add more capacity or to exit from the industry, informational complexity and asymmetry, some of which are based on subjective, some on objective measures (Porter, 1979; Gibb & Haar, 2010; Ulgen & Mirze, 2010; Botten & McManus, 1999; Ou et al., 2009; Sung, 2011).

2.2. Internal Communication

Communication has been explained as an information exchange between a resource and a receiver where information flows from the resource and the receiver through linked communication channels (Steingrimsdottir, 2011; Kalla, 2005; Knicki & Kreitner, 2008; Krone et al., 1987; Sarow & Stuart, 2007). Effective communication is linked to better knowledge sharing (Kalla, 2005; Burgess, 2005; Bartlett & Ghoshal, 1988; Ghoshal et al., 1994; Heaton & Taylor, 2002; Monge & Contractor, 2003; Tucker et al., 1996) which in turn is a critical component of success and even more competitive advantage (Kalla 2005; Argote & Ingram, 2000; Doz et al., 2001; Grant, 1996; Kogut & Zander, 1993; Spender, 1996). From this perspective, internal communications can be defined as the interplay between individuals and groups at various levels and in different areas of specialization, with the intention of designing (and redesigning) an organization and to coordinate day to day activities for both strategic and operational planning processes. This is done with a strategic focus on building favourable relationships between management and employees in that organization (Dolphin, 2005; Opitz, 2003; Barnfield, 2003; Jo & Shim, 2004; Omar et al., 2012; Aldehayyat, 2011).

In addition, there are many studies which have described internal communications as a main tool to achieve job satisfaction, motivation, job performance and innovation, all of which have a positive result on business performance (Gray & Laidlaw, 2002; Bartoo & Sias, 2004; Rosenfeld et al., 2004; Zucker, 2002; Damanpour, 1991; Karami, 2007: 183) whereas effective communication is more productive than increasing employees' satisfaction and motivation (Howard, 1998). Well-informed employees contribute positively to a company's external public relations efforts by acting as an organization's best ambassadors of the loudest critics depending on whether and how they receive information (White et al., 2010). For that reason, effective internal communication results in better corporate credibility and a better corporate reputation since employees are viewed as particularly credible sources by external stakeholders (Dawkins, 2004). This in turn creates an entry barrier in industry in favour of the business with the best reputation.

Over the years, studies of competitive rivalry and internal communication have been developing separately into a rich stream of research. While scholars draw much attention to competitive rivalry in a few major industries such as airlines and automobiles without a generalizability perspective (Ketchen et al., 2004) there is no research on this topic in the healthcare industry nor on how competitive rivalry affects internal communications in a business in terms of paths, style, structure and quality of communication, as well as the use of communication tools.

2.2.1. The Paths of Internal Communication

Communication channels, both formal and informal, can be divided into top-down, down-up and lateral communication categories (Steingrimsdottir, 2011). Top-down communication exists when communication flows from managers in higher positions to those at lower levels within the organizational hierarchy (Adler & Elmhorst, 1996; Koontz & O'Donnell, 1986). Usually, important tasks such as company strategies, programs, news etc. can be shared in that way. This becomes more frequent when sharing information about changing market conditions. Upward communication flows from subordinates to superiors (Adler & Elmhorst, 1996). These types of communication convey messages such as what subordinates are doing, unsolved work problems and suggestions for improvements (Steingrimsdottir, 2011). Lateral communication is made up of messages between employees of the organization with equal power (Adler & Elmhorst, 1996).

The absence of strategic and effective internal communication makes an organization vulnerable to the disgruntled within (Grossman, 2005) since employees pose a significant threat to organizations that fail the ensure consistency between external messages (Hannegan, 2004; Dawkins, 2004; White et al., 2010). Indeed the acts of the stakeholders such as shareholders, investors, customers, suppliers, employees and the general public fluctuate a great deal and they must receive clear signals (Dortok, 2006). This is why communication has to be managed strategically. Thus, with a particular focus on internal communication, we acknowledge that when the competition becomes intense, employees are informed vertically, horizontally or laterally about what is going in the external environment of a business.

H1: There is a relationship between competitive rivalry and the paths of internal communication.

2.2.2. The Style of Internal Communication

The communication style in all companies includes both formal and informal communication (Donohue et al., 1994) and the three communication paths discussed above can also be formal or informal. Widely used today as either technical or face-to-face communication, formal communication provides basic information about the organization or information related to employees' jobs (Litterst & Eyo, 1982; Steingrimsdottir, 2011). Informal communication, also known as the grapevine, is news or communication, which often fills a gap that formal communication, fails to address between employees based on their social relationships within the organization. It takes place when top management refuses to share information or sends information late (Daniels et al., 1997; Guffy et al., 2005; Wood, 1999; Kucuk, 1992).

From a strategic point of view both types of communication are mainly used for the attraction, retention, satisfaction and motivation of service-minded and customer-conscious employees through information exchange and the management of changes to enhance service quality and external marketing efforts as a way to competitive advantage (Dolphin, 2005; Howard, 1998; Varey & Lewis, 1999) in healthcare management. Basically, employees' commitment and effectiveness in a business largely depends upon their information and understanding of the strategic issues of that business (Tucker et al., 1996) such as competitive rivalry. Thus, good communication should create the basis for individuals and groups to make sense of their organization, what it is and what it means so enabling a better understanding of the strategy, a better commitment and a lower resistance to change, all of which eventually results in a more effective implementation of the strategy (D'Aprix, 1996; Rajhans, 2012). Thus, we acknowledge that when competition becomes intense, employees are somehow informed either in a formal or informal way about what is going on in the external environment of a business.

H2: There is a relationship between the competitive rivalry and the style of internal communication.

2.2.3. Usage of the Internal Communication Tools

Some scholars argue that the use of internal communication tools by top management can not only broadcast the strategic direction of the business but also gives employees a voice to make decisions and take actions aligned with the business strategy (Miles & Muuka, 2011; Argenti & Forman, 2002), which largely depends on the managers' perception of competitive rivalry (Ulgen & Mirze, 2010). Using internal communication in this way results in a top-down communication process, which will be associated with information giving rather than dialogue. Internal communication is operationally defined as the technology and systems used for sending and receiving messages in the way of newsletters, circulation materials, surveys, meetings, in-house television, face-to-face interactions, email, hotlines, suggestion boxes, internet, intranet, telephone calls, video-conferences, memos, letters, notice boards, formal presentations, reports, open forums, blogs, etc. (Argenti, 1998; Argenti, 2003; Asif & Sergeant, 2000; Baumruk et al., 2006; Debussy, et al., 2003; Goodman & Truss, 2004; Hayase, 2009; Hunt & Ebeling, 1983; Yates, 2006). There are also some informal communication tools, which are used such as grapevine news, social media and even coffee breaks. Articles in the financial press are also pored over in kitchens and over cups of coffee around the organization; people talk about possible mergers with varying degrees of ignorance and worry (Davenport & Simon, 2009). Thus we acknowledge that when the competition becomes intense, the usage of internal communication tools in a business is expected to increase.

H3: There is a relationship between the competitive rivalry and the usage of internal communication tools.

2.2.4. Quality of Internal Communication

Internal communication provides employees with important information about their jobs, the organization, the environment and each other. Effective communication in an organization is a major contributor towards the effective performance of organizations' strategic plans. Well-organized, pro-active and effective communication has an important role in reaching an organization's objectives (Kuchi, 2006). Communication can help motivate, build trust, create a shared identity and spur engagement. It provides a way for individuals to express emotions, share hopes and ambitions as well as celebrate and remember accomplishments. Communication is the foundation for individuals and groups to make sense of their organization, what it is and what it means (D'Aprix, 1996, Rajhans, 2012) Hence, a co-operative approach is important in helping employees to learn and work together and become more aware of the values of the organization (Peachey, 2006). In other words, the discipline of team learning starts with dialogue (Senge, 1990). Team members can share the organization's mission when they enthusiastically transfer information to implement the vision. Knowledge is acquired through the interpretive paradigms, experiences, the context in which one works and the theoretical concepts to which one in privy. This continuous learning motivates employees toward organizational success (Cato & Gordon, 2009). The company distributes timely and relevant information to employees through circulars and notices. All information about business, which employees consider essential such as changes in the company's policies or planned changes in the workforce, future plans, company's vision etc. are conveyed with context and rationale through appropriate channels and in a language employees can understand. Immediate action is taken in case of any problem or ambiguity reported in administrative communication. This not only makes the employees feel respected inside the organization, it also helps combat rumours that can lead to various problems for a business (Rajhans, 2012). Thus, we acknowledge that when the competition becomes intense, employees are somehow provided with quality information about what is occurring in the external environment of a business.

H4: There is a relationship between the competitive rivalry and the quality of communication.

3. Methodology

3.1. Research Goal & Scope

It is aimed in this study to present the relationship between competitive rivalry and internal communication hypothesized above in private healthcare organizations in Istanbul, Turkey. In this respect, the relevant literature is reviewed and a scale is developed to test these hypotheses. The developed scale has been sent to all operating private healthcare organizations (N = 148 as of February, 10th, 2013) in Istanbul, the biggest city in Turkey with a population of approximately 15 million. Those 148 private hospitals have been contacted via email or phone and offered the opportunity to participate in the survey, 93 of which responded with their data, yielding a response rate of 62,8% (= 93 / 148). Those completing the survey comprised of high-level management and administrators within the hospitals. These people were selected because of their familiarity with strategic management, marketing and communication within their organizations.

3.2. The Scale

The hypothesized measurement model is shown below in Figure 1. The data is obtained through a developed questionnaire with subsections of competitive rivalry (Ulgen & Mirze, 2010; Ou et al., 2009; Tavitiyamana et al., 2011), path of communication (Albrecht, 2001; Kusakcioglu, 2008; Opperman, 2007), style of communication (Basaran, 2004), usage of communication tools and quality of communication (Gorla et al., 2010; Bammens & Collewaert, 2012) with 5-point Likert scales and demographic information regarding both the respondent and the participant healthcare organization. The gathered data from the questionnaires is analysed through a factor analysis of principal component extraction method with a Varimax-rotation in SPSS 21.0, yielding 5 items for competitive analysis (2 of which are in reverse order), 11 items for path of communication, 7 items for style of communication, 7 items for usage of communication tools and 9 items for quality of communication with factor loadings over 0.50 as in Table 1 as coded 5: Definitely Agree and 1: Definitely Disagree.

Table 1. Results of Factor Analysis for Constructs Used in the Questionnaire

Construct	No. of Items	Total Variance Explained (%)	Cronbach's Alpha
Competitive Rivalry (CR)	6	54,16	,801
Path of Communication (PC)	11	50,26	,899
Style of Communication (SC)	7	48,99	,824
Usage of Communication Tools (UCT)	7	43,19	,773
Quality of Communication (QC)	9	54,16	,894

3.3. The Research Model

The research is based on an explanatory-model to present the relationships among those constructs with above-developed hypotheses as in Figure 1.

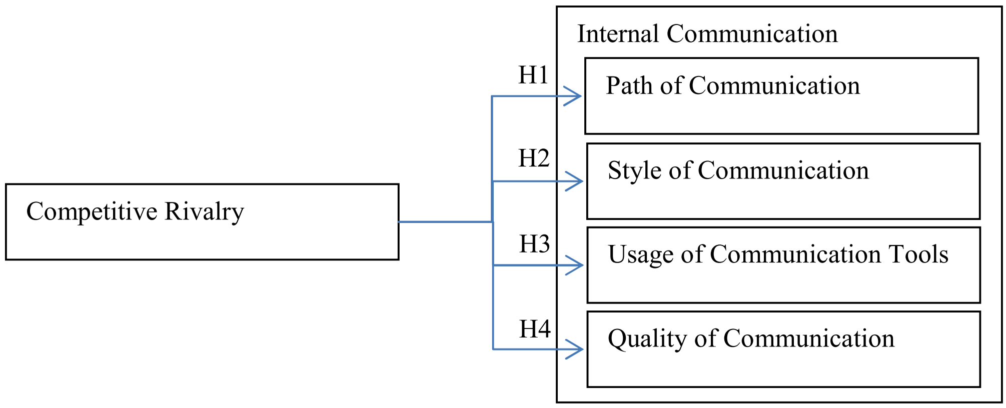

Figure 1. The Research Model

3.4. Analysis

Having established the reliability, the next step is to test the hypotheses. Thus, a Pearson correlation analysis has been conducted to present the proposed relationships among the constructs of competitive rivalry, path of communication, style of communication, style of communication, usage of communication tools and quality of communication with descriptive statistics for all variables. Right after the Pearson correlation analysis, a linear regression analysis has been done to put forth the effects of competitive rivalry on internal communication.

4. Results

As seen in Table 2, Pearson correlation analysis reveals that competitive rivalry is significantly correlated with path of communication ($r = 0,344$; $p < 0.01$), style of communication ($r = 0,255$; $p < 0.05$) and usage of communication tools ($r = 0,344$; $p < 0.01$). Path of communication is also significantly correlated with style of communication ($r = 0,664$; $p < 0.01$), usage of communication tools ($r = 0,314$; $p < 0.01$) and quality of communication ($r = 0,323$; $p < 0.01$). Style of communication is also significantly correlated with usage of communication tools ($r = 0,330$; $p < 0.01$) and quality of communication ($r = 0,287$; $p < 0.01$). Finally, usage of communication tools is significantly correlated with quality of communication ($r = 0,573$; $p < 0.01$). Overall, being all the correlations are positive, all hypotheses are accepted except for the fourth one.

Table 2. Correlations and Descriptive Statistics of Study Variables

No	Construct	Mean	Standard Deviation	1	2	3	4	5
1	Competitive Rivalry (CR)	2,31	,93	1,000				
2	Path of Communication (PC)	2,16	,89	,344**	1,000			
3	Style of Communication (SC)	2,22	,86	,255*	,664**	1,000		
4	Usage of Communication Tools (UCT)	2,40	,86	,344**	,314**	,330**	1,000	
5	Quality of Communication (QC)	2,49	,91	,202	,323**	,287**	,573**	1,000

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

** Correlation is significant at the 0.05 level (2-tailed)

Following the Pearson correlation analysis, a linear regression analysis has been done to find any interaction among variables. Each of the internal communication constructs has been taken as a dependent variable and competitive rivalry as independent to develop four different models to present the effect of competitive rivalry on all other constructs of internal communication. As can be seen in Table 3, linear regression analysis reveals that the effect of competitive rivalry is 0,344 for path of communication ($p < 0.01$), 0,255 for style of communication ($p < 0.05$), 0,344 for usage of internal communication tools ($p < 0.01$) and 0,202 for quality of communication ($p < 0.10$) although there seems to be no correlation with the last one.

Table 3. Model Summaries of Linear Regression Analysis

Model No.	**Model 1 PC***	**Model 2 SC***	**Model 3 UCT***	**Model 4 QC***
R	0,344	0,255	0,344	0,202
R Square	0,118	0,065	0,119	0,041
Adjusted R Square	0,108	0,055	0,109	0,03
Model F	12,193**	6,339***	12,237**	3,890****
Standardized Coefficient (B)	0,344	0,255	0,344	0,202
Degrees of Freedom	92	92	92	92

* Predictors (Constant): Competitive Rivalry

** $p < 0.01$

*** $p < 0.05$

**** $p < 0.10$

5. Conclusion

When the competition becomes intense, healthcare organizations consider internal communication a much more important issue. They become eager to communicate internally whether it is through a top-down, down up or lateral path to share any information with employees about the organization. They also use oral/verbal and formal/informal techniques to provide the employees with any information they need to be motivated to cope with intensity of competition in terms of communication style. In the case of intensive competition, the usage of communication tools, whether it is company newsletters, surveys, meetings, face-to-face interactions, etc. increases to disseminate information inside the organization. Although there is no correlation between competitive rivalry and quality of communication, the communication quality seems to be affected by intense competition. Thus, our research presents the linkage and the interaction between competitive rivalry and internal communication which results indicate that overall, competitive rivalry has a significant direct positive influence on internal communication dimensions in healthcare organizations.

This study aspires to pioneer in terms of relation between competitive rivalry and internal communication. Thus, there has to be some other research to present one of which competitive rivalry is much more related to top-down, down-up or lateral communication as well as oral/verbal or formal/informal techniques. It is also possible for scholars to test those hypothesis with a longitudinal research how the relations and interactions between those variables in time or whether it is different from what is found in this study in a less competitive environment.

This study is also limited only with Istanbul, the biggest city of Turkey and private healthcare organizations in Istanbul excluding other cities or even regions in Turkey and healthcare organizations operated by the Turkish Ministry of Health. Thus, a further research is needed to test the hypothesis showing the relation and interaction between those variables tested in this study including other healthcare organizations in Turkey.

Another limitation is that this study is conducted only on healthcare organizations. There should be some other research to be done in other industries or even in other countries to test the relations and interaction between those variables in somehow different cultures.

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Oil Price Volatility and Economic Growth in Nigeria: a Vector Auto-Regression (VAR) Approach

Edesiri Godsday Okoro[1]

Abstract: The study examined oil price volatility and economic growth in Nigeria linking oil price volatility, crude oil prices, oil revenue and Gross Domestic Product. Using quarterly data sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin and World Bank Indicators (various issues) spanning 1980-2010, a non-linear model of oil price volatility and economic growth was estimated using the VAR technique. The study revealed that oil price volatility has significantly influenced the level of economic growth in Nigeria although; the result additionally indicated a negative relationship between the oil price volatility and the level of economic growth. Furthermore, the result also showed that the Nigerian economy survived on crude oil, to such extent that the country's budget is tied to particular price of crude oil. This is not a good sign for a developing economy, more so that the country relies almost entirely on revenue of the oil sector as a source of foreign exchange earnings. This therefore portends some dangers for the economic survival of Nigeria. It was recommended amongst others that there should be a strong need for policy makers to focus on policy that will strengthen/stabilize the economy with specific focus on alternative sources of government revenue. Finally, there should be reduction in monetization of crude oil receipts (fiscal discipline), aggressive saving of proceeds from oil booms in future in order to withstand vicissitudes of oil price volatility in future.

Keywords: crude oil prices; oil revenue; gross domestic product; white heteroskedasticity test

JEL Classification: O47; C25

1. Introduction

The Nigerian economy has been undergoing fundamental structural changes over the years. The economy which was largely at a rudimentary stage of development has been experiencing structural transformation after the country's independence (Dappa and Daminabo, 2011). When Nigeria became politically independent in October 1960, agriculture was the dominant sector of the economy; contributing about 70 percent of the Gross Domestic Product (GDP), employing about the same

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percentage of the working population and accounting for about 90 percent of foreign earnings and federal government revenue (National Centre for Economic Management and Administration (NECEMA), 2012). During this period, manufacturing and mining activities were at a very low level of development while the country's participation in external trade was based on the level of economic activities in agriculture where it had a comparative advantage. Thus, agriculture dominated the country's export trade while manufactured items dominated imports (Central Bank of Nigeria (CBN), 1993). Oil was discovered in commercial quantity in Nigeria in 1956 and since then, oil has been the mainstay of the country's economy up-till this present dispensation. In Nigeria, oil accounts for more than 90 percent of its exports, 25 percent of its Gross Domestic Product (GDP) and 80 percent of government total revenues (Adebiyi, et.al 2012).

The term oil price volatility refers to instability, changes, a rise or fall, in the supply or demand side of oil prices in the international oil market. The rise or flux in the prices of oil can be termed positive (i.e. a rise) or negative (i.e. a fall). Akpan (2012) opined that the instability in the prices of oil have been traditionally traced to supply side disruptions such as OPEC supply quotas, political upheavals in the oil-rich Middle East and militancy in the Niger Delta region. Nnanna and Masha (2003) observed that, changes in global oil market prices bring about a tremendous effect on economic growth, especially in the real sector. The real sector is where goods and services are produced through the combined utilization of raw materials and other production factors such as labour, land and capital. The real sector therefore forms the main driving force of any economy in the world and the engine of economic growth. The real sector comprised of agriculture, industry, building and construction, and services.

In Nigeria, much of the revenues are generated from the real sector (especially the oil and gas industry). This forms the pivot for government budgets and subsidization of domestic petroleum product prices (especially gasoline which is the most demanded for transportation and other uses in the country). Volatility in oil prices bring about a favourable investment climate, increased national income within the period with a slight decline in the growth rate of Gross Domestic Product (GDP); despite the perceived benefits of volatility in oil prices, the economy of Nigeria during the boom were yet undesirable (Adeniyi, Abimbola and Akin, 2011). Hence it appears that oil price volatility thus affect economic growth. If this premise is true, then there is therefore the fundamental issue of ascertaining whether oil price volatility could positively or negatively affect economic growth in Nigeria.

2. Prior Literature

Traditionally, oil prices have been more volatile than many other commodity or asset prices since World War II. The trend of demand and supply in the global economy coupled with activities of OPEC consistently affects the price of oil. Changes in oil prices in the global economy are so rapid and unprecedented. This is partly due to increased demand of oil by China and India (Hamilton, 1983). However, the global economic meltdown counteracted the skyrocketing oil price in Nigeria. During the inception of the crisis, oil price crashed below \$40/b in the world market which had serious consequences on Nigeria fiscal budget leading to the downward review of the budget oil bench mark price. Today oil price is oscillating between \$75/b and \$80/b. This rapid change has become a great concern to everybody including researchers and policy makers.

Oil prices have been very volatile since 1999. Spikes from March 1999 are because of the following factors: (i) OPEC restricted crude oil production and there is greater cooperation among its members; (ii) Asian growing oil demand signifying recovery from crisis; and (iii) Shrinking non-OPEC production. The world market responded accordingly with sharp increase in prices, with crude oil prices increasing and exceeding US\$30/b towards the end of 2000. OPEC then tried to maintain prices at a range between US\$22/b and US\$28/b by increasing or reducing production, and with increases in output by non-OPEC producers, particularly Russia (Adeniyi, 2012).

Gunu and Kilishi (2010) asserted that the September 11 2001 was another incident that sent crude oil prices plummeting, despite earlier production increases by non-OPEC producers and reduction of quotas by OPEC member countries but soon afterwards, prices moved to the US\$25/b range. In 2004, prices moved above this range, with the crude oil hovering above US\$40/b per barrel during the year. The monthly average world gasoline prices increased from US\$0.26 a litre in January 2004 to US\$0.37 in January 2007 and to US\$0.73 by August 2008. Diesel prices were US\$0.25 a litre in January 2004, US\$0.42 in January 2007, and US\$0.84 in August 2008. Bassam (2010) observed that during this period, some developing countries including Nigeria experienced a large currency appreciation which partially helped offset oil price increases. Other countries experienced currency depreciation, exacerbating the impact of steep oil price rises. Retail fuel prices of gasoline and diesel in August 2008 were, on average, about 50 percent higher in industrialised countries than in developing countries. Gasoline, diesel, and household kerosene prices in oil-importing developing countries were twice as high as those in oil-exporting countries.

By region, Sub-Saharan Africa had the highest gasoline and diesel prices in the developing world, a consequence of the landlocked nature of some of its countries, inadequate economies of scale in small markets, inadequate infrastructure for transporting fuels, rising demand for diesel to offset power shortages, and relatively high rates of taxation. Retail prices of liquefied petroleum gas, used in household cooking, were low in relation to world prices, reflecting the tendency of governments to subsidize fuel. However, a number of countries - including Bangladesh, China, Egypt, Ethiopia, India, Indonesia, the Islamic Republic of Iran, Malaysia, Nepal, Nigeria, Sri Lanka, the Syrian Arab Republic, Venezuela, and the Republic of Yemen - set fuel prices in an ad hoc manner, and most have seen growing price subsidies in recent years (Akpan, 2012). In Nigeria the domestic retail prices are regulated and subsidized by government, however, the prices are adjusted (upward or downward) from time to time.

According to Nouriel and Brad (2004), volatility in oil prices has a stagflationary effect on the economy of an oil importing country: they slow down the rate of growth (and may even reduce the level of output – i.e. cause a recession) and they lead to an increase in the price level and potentially an increase in the inflation rate. Volatility in oil prices act like a tax on consumption. The factors contributing to volatility in oil prices can be isolated as follows: the continued fall in Naira and political tension in the South-South region; high demand for crude oil by other countries and uncertainty about the future of oil producers. The depreciation of the Naira against other major currencies contributed to increasing fuel prices. The banking crisis that erupted in 2006, following more than a year of less acute financial turmoil, has substantially reinforced the cyclical downturn of oil prices. Also, the consequent global economic meltdown contributed to the volatile nature of oil prices.

3. Empirical Evidence

Oil price volatility on economic growth has occupied the attention of researchers for almost four decades (Adeniyi, 2012; Lutz and Cheolbeom, 2007). In a study of the impact of oil price volatility on economic growth in Nigeria using four key macroeconomic variables, Gunu and Kilishi (2010) found that oil prices have significant impact on real GDP, money supply and unemployment and that the impact on the fourth variable, consumer price index is not significant. The findings implied that three key macroeconomic variables (real GDP, money supply and unemployment) were significantly explained by exogenous and the highly volatile variable, hence the economy of Nigeria is vulnerable to external shocks. Similarly, Lutz (2006), and Olivier and Jordi (2007) empirically examined the impact of oil price volatility on economic growth. In his study, Lutz (2006) established that volatility in oil prices is crucial in assessing the effect it has on US real GDP and CPI inflation, suggesting that policies aimed at dealing with volatility in oil prices must take careful account of the origins of changes in oil prices. In the same way, Olivier and Jordi (2007) investigated the macroeconomic effects of oil price volatility using a set of industrialized economies in the aftermath of oil price changes of the 1970s and of 2000s, focusing on the differences across episodes. They found that lack of concurrent adverse changes, smaller share of oil in production, flexibility of labour markets and improved monetary policy played an important role in the economy.

In a study on the effect of oil price shocks on output, inflation, real exchange rate and money supply in Nigeria using quarterly data from 1970 to 2003, Olomola and Adejumo (2006) established that oil price shocks do not affect output and inflation in Nigeria. They argued that oil price shocks do significantly influence real exchange rates.

Rebeca and Marcelo (2004) assessed the effect of oil price shocks on real economic activity of some industrialized OECD countries using a multivariate VAR analysis. Their study found evidence of a non-linear impact of oil prices on real GDP. Also that among oil importing countries, oil price increases are found to have a negative impact on economic activity in all cases but Japan with oil price increases affecting the UK negatively and Norway positively. Empirical evidence suggests that there are relatively few cases of research on oil price volatility in Nigeria; thus, the present study focused on oil price volatility and economic growth in Nigeria using the VAR model.

4. Methodology

This study was carried out in Nigeria to see the influence of oil price volatility on the level of economic growth. The study covered the period 1980-2010.

4.1. Method of Analysis

In order to ascertain the volatility in oil prices and the influence on the level of economic growth, an unrestricted Vector Auto-Regression (VAR) Model was adopted. The VAR model provides a multivariate framework where changes in a particular variable (oil price) are related to changes in its own lags and to changes in other variables as well their lags. The VAR treats all variables as endogenous and does not impose *a-priori* restriction on structural relationships (Gujarrati, 2003). The VAR estimates the relative importance of a variable in generating variations in its own value and in the value of other variables which can be accessed via Forecast Error Variance Decomposition (VDC). There was also a co-integration test as well as a normality test, which helped to determine if the error term of the variables under consideration were normally distributed.

4.2. Data Definition and Source

The data for this study were generated from the Central Bank of Nigeria (CBN) Statistical Bulletin and World Bank Indicators for Nigeria (various issues) during

1980-2010. The data for Crude Oil Price (COP), Oil Revenue (OREV) and Gross Domestic Product (GDP) were sourced from the Central Bank of Nigeria Statistical Bulletin and Oil Price Volatility (OPS) from the World Bank Indicators for Nigeria.

4.3. Model Specification

The econometric model considered in this study takes Crude Oil Prices, Oil Revenue and Oil Price Volatility as the independent variables and Gross Domestic Product as dependent variable. These variables are used at constant prices. This is used to obtain a reliable parameter estimates in the time series VAR model. Generally, a VAR model is specified as:

$$\mathbf{Y_t = m + A_1Y_{t-1} + A_2Y_{t-2} + \ldots + A_pY_{1-p} + €_t} \qquad \mathbf{(1)}$$

Equation (1) specifies VAR (P) process, where $A_i(_i=1,2,\ldots p)$ are K x K matrices of coefficients, m is a K x 1 vector of constants and $€_t$ is a vector of white noise process. Therefore, a model for the analysis can be stated explicitly as follows:

GDP = F(OPV, OREV, COP) (2)

Where:

GDP = Gross Domestic Product

OPV = Oil Price Volatility

OREV = Oil Revenue

COP = Crude Oil Price

In order to estimate equation (1 and 2), we can translate this into equation 3 as stated below:

$$\mathbf{GDP = m_0 + A_1OPV_{t-1} + A_2OREV_{t-2} + A_3COP_{t-3} + €_t} \qquad \mathbf{(3)}$$

5. Results and Discussion

The tests were conducted in order of priority. The ADF Unit Root Test came first which was closely followed by the Co-integration Test, Over-parameterized and Parsimonious Error Correction Test and Diagnostic Test came next which was concluded by the Variance Decomposition Test.

5.1. ADF Unit Root Test

Table 1. Summary of ADF Unit Root Test

Variables	Level date	1st diff	1% CV	5% CV	10% CV	Order of Integration
OREV	-2.07	-5.46*	-3.69	-2.97	-2.62	I(1)
OPV	-4.20*	-6.38	-3.69	-2.97	-2.62	I(0)
COP	0.66	-2.86***	-3.69	-2.97	-2.62	I(1)
GDP	1.37	-5.08*	-3.69	-2.97	-2.62	I(1)

* Statistically significant at 1% level

*** Statistically significant at 10% level

The Augmented Dickey Fuller (ADF) unit root test was used to test whether the variables are stationery or not and their order of integration. The result of the ADF unit root test is shown in table I above. The result of the ADF unit root test followed expectations. All the variables except Oil Price Volatility (OPV) were non-stationery. They however became stationary after taking the first order difference. The oil price volatility was stationary at the level probably because it is computed in ratio. This set the pace for the next stage of the analysis which is a test of co-integration.

5.2. Co-integration Test

The Johansen co-integration test was used to test for the long run relationship among the variables. The results of the Johansen co-integration test are shown in tables IIa and table IIb below.

Table 2a. Summary of Johansen Co-integration Test Result

Hypothesize No. of CE(s)	Eigenvalue	Trace Statistic	5 Percent Critical Value	1 Percent Critical Value
None **	0.640692	77.78483	68.52	76.07
At most 1*	0.602173	48.10118	47.21	54.46
At most 2	0.431028	21.37075	29.68	35.65
At most 3	0.143147	5.016967	15.41	20.04
At most 4	0.018340	0.536789	3.76	6.65

Table 2b. Summary of Johansen Co-integration Test Result

Hypothesize No. of CE(s)	Eigenvalue	Max-Eigen Statistic	5 Percent Critical Value	1 Percent Critical Value
None	0.640692	29.68365	33.46	38.77
At most 1	0.602173	26.73042	27.07	32.24
At most 2	0.431028	16.35379	20.97	25.52
At most 3	0.143147	4.480178	14.07	18.63
At most 4	0.018340	0.536789	3.76	6.65

The results of the Johansen co-integration test in tables IIa and IIb above showed that a long run relationship exists among oil price volatility, oil revenue, crude oil prices and economic growth. The trace test indicated two co-integrating equation while the max-eigen statistic indicated one co-integrating equation. Once there is co-integrating vector, a long run relationship is concluded (Gujarati, 2003). The existence of at least one co-integrating equation permits us to estimate over-parameterized and parsimonious error correction mechanism (ECM).

5.3. Over-parameterized and Parsimonious Error Correction Mechanism

The Over-parameterized and Parsimonious Error Correction Mechanism (ECM) test are shown in tables IIIa and IIIb below.

Table 3a. Summary of Over-parameterized ECM result Dependent Variable: DLGDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLCOP	0.483866	0.105695	4.577960	0.0001
DLCOP(-1)	0.300630	0.293394	1.024661	0.3184
DLCOP(-2)	0.023727	0.281602	0.084259	0.9337
DLOREV	0.291112	0.116558	2.497571	0.0219
DLOREV(-1)	0.492357	0.116026	4.243516	0.0004
DLOREV(-2)	0.029815	0.163759	0.182066	0.8575
OPV	-0.889766	0.181262	-4.908717	0.0000
ECM(-1)	-0.454316	0.167069	-2.719327	0.0105
C	0.068255	0.169144	0.403534	0.6911

$R^2 = 0.73$, $R^2 = 0.61$, AIC = 1.96, SC = 2.38, Dw = 2.07

The over-parameterized error correction mechanism (ECM) model includes various lags of the variables. The parsimonious ECM model (or preferred model is gotten by deleting the insignificant variables from the over-parameterize ECM model. The Schwarz criterion and the Akaike information criteria were used to select the appropriate lag length. The parsimonious ECM result was gotten by deleting insignificant variables from the over-parameterize ECM model. The parsimonious ECM result was used to test whether oil price volatility have influenced the level of economic growth using the desirable variables based on applicable decision rule.

Table3b. Summary of Parsimonious ECM result Dependent Variable DL GDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLCOP	-0.685214	0.077328	-8.861098	0.0000
DLCOP	0.642603	0.149431	4.300324	0.0001
DLOREV	0.250244	0.111010	2.254250	0.0340
DLOREV(-1)	0.495617	0.108928	4.549924	0.0001
ECM(-1)	-0.721014	0.304142	-2.370651	0.0242
C	-0.052484	0.121754	-0.431063	0.6704

$R^2 = 0.78$, $R^2 = 0.77$, AIC = 1.86, SC = 2.15, Dw = 2.07

The t-value result (t-cal 8.86 > t-crit 2.052) indicates that oil price volatility have negatively affect economic growth. The result showed an additional factor. The negative sign attached to the coefficient of oil price volatility signifies that in Nigeria, volatility in oil prices have negatively affected the level of economic growth. The result showed that an increase in oil price volatility by 1 unit actually reduced the level of economic growth by 0.69 units. Also, the t-test in this regard has a value of 2.25 at the levels and 4.55 at the first difference which are less than the t-critical of 2.052. This is an indication that oil revenue has significant impact on the level of economic growth in Nigeria. This result has special significance because both the previous level of oil revenue and the current level of oil revenue were statistically significant. This is an indication of the Nigerian government over-reliance on revenue from the oil sector. Furthermore, the t-test in this regards has the value of 4.30 which is greater than the t-critical (2.052) suggesting that crude oil price has significantly influenced the level of economic growth in Nigeria. This is not surprising however since the Nigerian economy relies almost entirely on crude oil revenue. The Nigerian case is so severe that the budget of the country is tied to particular price of crude oil. This was why a sudden drop in the oil price in 2008 as a result of the global financial crisis led to a downward readjustment of the budget.

5.4. Vector Error Correction (VEC)

The portion of the VEC result that is of most significance is shown in table IV below:

Table 4. Summary of Vector Error Correction Results

Co-integrating Eq:	**Co-integrating Eq 2**			
LGDP(-1)	1.000000			
LCOP(-1)	47.35423 (14.2973) [3.31212]			
LOREV(-1)	248.5813 (30.0155) [8.28177]			
OPV(-1)	-848.8212 (91.2922) [-9.29785]			
OREV(-1)	-0.003367 (0.00043) [-7.91601]			
C	-2128.183			
Error Correction:	**D(LGDP)**	**D(LCOP)**	**D(LOREV)**	**D(OPV)**
CointEq1	-0.000966 (0.00086) [-1.12841]	-0.407183 (0.05926) [-6.87080]	-0.000314 (0.00111) [-0.28369]	-0.173256 (0.05639) [-3.07275]

The result of the VEC showed that COP equation and the OPV equation represents the co-integrating equation. The others are statistically flawed. They have the right sign but were not significant.

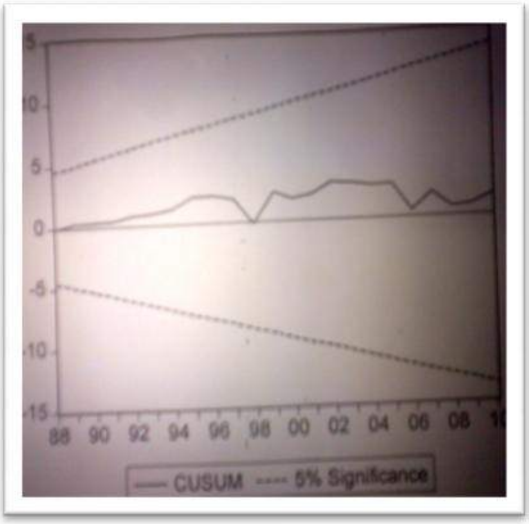
5.5. Diagnostic Test

The diagnostic test is used to test whether the errors are normally distributed, whether the variance is constant or not and whether the errors are serially correlated. The test of stability also forms part of the diagnostic test. Table V presents the first part of the diagnostic test.

Table 5. Diagnostic Test Result: Jarque-Bera

Jarque-bear	0.59	Probability	0.75
White Heteroskedasticity test			
f-statistic	1.01	Probability	0.30
Breusch Godfrey Serial Correlation LM test			
f-statistic	0.14	Probability	0.87

The result of the Jarque-Bera normality test shows that the errors are normally distributed. The white heteroscedasticity test shows that the errors are homeskedastic and the result of the Breusch Godfrey Serial Correlation LM test indicated no evidence of serial correlation in the residuals. The result of the stability test is shown in figures 1 and 2 below:



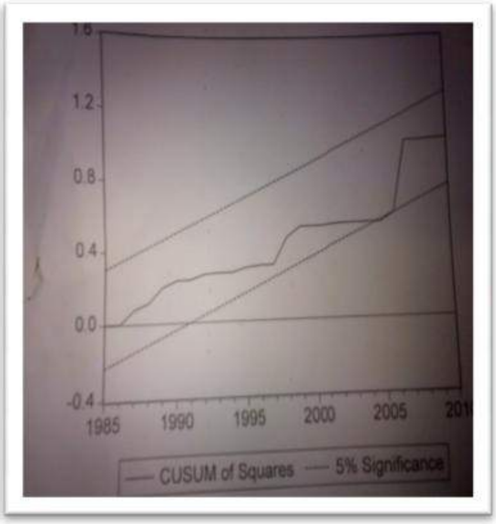


Figure 1: CUSUM Stability Test **Fig. 2: CUSUM Q Stability Test**

The result of the Cumulative Sum of Recursive Residuals (CUSUM) test in the figure above indicated that the model is stable since the 5 percent line falls in-between the two 5 percent lines. Also, the Cumulative Sum of Squares of Recursive Residuals (CUSUM Q) indicated stability in the model.

5.6. Variance Decomposition

The variance decomposition tests the proportion of changes in the dependent variable that has been explained by the changes in the independent variables. The result of the variance decomposition is shown in table VI below:

Table 6. Summary of Variance Decomposition Result

Period	S.E.	Variance GDP	COP	OPV	OREV
1	1780142.	100.0000	0.000000	0.000000	0.000000
2	3285982.	34.58371	40.52078	7.103264	17.79225
3	3832300.	45.29962	33.98349	5.222418	15.49447
4	4242651.	50.02630	31.11930	6.006581	12.84782
5	4504541.	46.23058	35.98962	5.371077	12.41773
6	4817001.	48.99059	34.53738	5.031366	11.44066
7	6063125.	67.07404	22.47035	3.186895	7.268716
8	6932526.	64.99905	20.03120	3.634832	11.33491
9	8244110.	59.17076	21.23684	3.578833	16.01357
10	9332918.	61.39760	20.41590	3.188355	14.99814

The result indicated that oil price volatility did not explain significant percentages of the changes in the level of economic growth during the first period. Oil price volatility was explained by 7 percent of the changes in level of economic growth in the second period and this reduced to 6 percent in the fourth period and 3 percent in the tenth period, reflecting the problem caused by oil price volatility to economic growth. The volatility to crude oil price however explained a significant percentage of changes in economic growth. Volatility to crude oil price explained 41 percent of changes in crude oil in the second period and this reduced to 35 percent in the fifth period and declined further to 20 percent in the tenth period. This indicated the over-reliance of the country on the price of crude oil in the world market. Volatility to oil revenue was explained by 17 percent of changes in economic growth and this was 16 percent in the ninth period and fell to 14 percent in the tenth period.

6. Conclusion and Recommendations

There is a vast literature establishing robust results across many countries on the connection between oil price volatility and economic growth. This implies that connections should also exist between oil price volatility and economic growth in Nigeria. This study examined oil price volatility on economic growth in Nigeria during 1980-2010, using a VAR analysis. The study concluded from the findings that oil price volatility have significant influence on economic growth although a negative impact. This constitutes serious implication for the management of the country economy because crude oil price is a major determinant of the budget formulation in Nigeria while GDP is a key macroeconomic policy targets. If these variables are influenced by a change, almost unpredictable exogenous variable like crude oil prices, then the economy becomes highly vulnerable to unpredictable external shocks.

Based on the above, it was recommended that there should be a strong need for policy makers to focus on policy that will strengthen/stabilize the structure of the economy with specific focus on alternative sources of government revenue. The way to minimize this volatility in oil prices is to diversify the economy so as to make it less oil dependent; there should be reduction in monetization of crude oil receipts (fiscal discipline), aggressive saving of proceeds from oil booms in future in order to withstand vicissitudes of oil price volatility in future; Policy makers should design the optimal policy mix that would help the nation cope efficiently with the economic and social costs of the external shocks accompanying higher oil prices and the country need to establish and enforce prudent fiscal rules to smooth surplus export receipts over time, invest them for future growth and minimize wasteful spending.

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Impact of Human Resources Management on Entrepreneurship Development

Obasan Kehinde A.[1]

Abstract: The decisive role played by Human Resources Management (HRM) in the emergence and sustenance of entrepreneurship development in an organisation cannot be misplaced as it ensures optimum deployment and development of personnel towards the actualization of set organisational objectives. Using a primary data sourced through a well-structured and self- administered questionnaires served to sixty HR managers and supervisors, and analyzed with descriptive statistics and Pearson product moment correlation coefficient, this study investigates the role of (HRM) in entrepreneurship development. The tested hypotheses revealed a correlation coefficient of 0.44 which indicate the existence of a moderate positive relationship between Human Resources Management (HRM) and entrepreneurship development. This indicates that HRM can facilitate entrepreneurship development in an organization. Hence HR managers must seek as much as possible measures that will ensure that their human resource are adequately compensated, rewarded and motivated to enhance their performance which will translate to improved performance that will influence the overall performance of the organisation.

Keywords: management; human resources; entrepreneurship; development

JEL Classification: O15

1. Introduction

In every modern organisation, the primary focus of Human Resource Management (HRM) practice are people-oriented activities, since the ever-changing, competitive demands of the marketplace have compelled a re-orientation and paradigm shift of HRM practice. Human Resources (HR) may be conceived as the knowledge, skills, creative abilities, talents and aptitudes obtained in the population or the totality of all inherent abilities, acquired knowledge and skills as exemplified in the talents and aptitudes of its employees. HRM is an integral part of management and is concerned with the management of an organization Human Resources with the prime objective of forging and maintaining better human relations in the organization toward the realization of its set goals.

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Similarly, HRM is concerned with getting the best possible results through people in the organisation. It is an integral but distinctive part of management, concerned with people at work and their relationships within the enterprise. Kenter (2003) opined that HR tasks cover an ample variety of activities requiring very different skill sets from compensation and benefit administration (highly quantitative) to employee relations (highly qualitative). As a consequence, there are legitimate questions about whether these tasks need to be together on organizational plans in light of new realities and technologies. Granovetter (1995) opined that a business setting that guarantee minimum profits is not a sufficient condition for organizational survival, instead the composition of the social structure within which individuals and groups try to construct it

Similarly, entrepreneurship has been identified as the process of creating new thing of value by devoting the necessary time and effort, assuming the accompanying financial, psychic, and social risks, and receiving the resulting rewards of monetary and personal satisfaction and independence. (Hisrich, 2005) This process enables the business in creating value by identifying market opportunities and creating unique combinations of resources to pursue those opportunities (Jacobson, 1997). These submissions connotes that for organisations to survive various challenging business thorns, there is a compelling need to annex the human resources in nurturing the emergence and sustenance of entrepreneurship in the organisation in order to attain meaningful business results.

Yaundt (2000) observed that HRM practices do not directly affect organizational performance but help build intellectual capital, which in turn leads to increased organizational value creation. Thus, in order to enjoy this lofty ends of entrepreneurship, every organisation human capital must be planned, organized, oriented, selected, trained, developed, appraised and adequately compensated in best way that will result in the emergence and development of the right core competencies and organizational capabilities which serve as the basis of creating value. Hence, Organizations need design its human capital in manners that will make it a virile source of competitive advantage (Lawler, 2009).

From the foregoing discussion, this study seeks to investigate the influence of HRM practices on entrepreneurship development in the Nigerian business setting with a view to compare the findings with the global business practices. The remaining aspects of the study include a brief literature review, research methods, result and discussion, conclusion and recommendations.

2. Literature Review

The concept of HRM was viewed by Schermerhorn (2001) as the process of attracting, developing, and maintaining a talented and energetic workforce to support organizational mission, objectives, and strategies while Audretsch and Thurik (2000) argue that effective HRM practices are becoming increasingly important in the new “knowledge-based” economy, as companies face the double challenge of the need for more highly trained employees coupled with a shortage of qualified labour. These challenges, coupled with the trend toward smaller firms in general, reinforce the need for effective HRM practices in the small firm.

Storey (2007) observed that the concept of HRM is controversial giving it four different meanings; the first is that HRM is often used synonymously with personnel management i.e. HRM and personnel management are the same thing; the second is that HRM techniques are integrated and more co-ordinated approach. Thirdly, HRM is usually used to signal a more business-oriented and business integrated approach to the managing of people since it undertakes several activities such as manpower planning, recruitment, selection, placement, Induction, training, development, performance appraisal, remuneration, staffing, discipline, social security, Collective bargaining, etc.

In the last two decades, empirical works have focused on the link between the practice of HRM and organizational performance, evident in improved employee commitment, lower levels of absenteeism and turnover, higher levels of skills and higher productivity which enhanced quality and efficiency (Golding, 2010). This area of work is sometimes referred to as strategic HRM or SHRM (Paauwe, 2009). Within SHRM three strands of work can be observed: best practice, best fit and the Resource Based View (RBV). The notion of best practice - sometimes called high commitment HRM - proposes that the adoption of certain best practices in HRM will result in better organizational performance. Perhaps the most popular work in this area is that of Pfeffer (1994) who argued that there were seven best practices for achieving competitive advantage through people and 'building profits by putting people first'. These practices included: providing employment security, selective hiring, extensive training, sharing information, self-managed teams, and high pay based on company performance and the reduction of status differentials.

Ivancevich (2001) opined that prior to the industrial revolution, most people worked either close to or in their homes. However, mass production technologies changed this style and people began to travel to work locations or factories. Today, with increased computer technology, there is a move for many to work from anywhere; people are no longer necessarily anchored to one place due to the technology erosion especially the internet. While Mathis and Jackson (2003) explained Human Resource Information System as an integrated system providing information used in HR decision making by improving the efficiency with which data on employees and HR activities are compiled and ensure prompt accessibility to data that enables HR planning and managerial decisions making to be based to a greater degree on information rather than relying on managerial perceptions or intuitions.

The arrival and continuous progression of technology in modern society is not a mirage and to understand the role technology plays on today's HRM since it is no longer enough for HR manager to maintain is important (Lengnick-Hall & Lengnick-Hall, 2003). The HR field has evolved over time and is currently under more analysis as well as more accountable than ever with little room for mistakes, which can be overwhelming costly. HRs these days and in the near future have a greater importance in the strategic business partnership with the organization, and for this challenge to be won, there is an increasing need for technology to be inserted on its daily operations and on its decision-making considerations.

According to Puccio et al (2007) the inclusion of technology will not come as a one-off process or a miracle pill instead, it is a result of a deliberate activities set in motion to develop the knowledge base of employees through an effective and efficient HRM department that encourages and promote creative thinking, expertise and innovation in the methods and procedure of performing assigned task in an organisation. Such process often yields the production of an intrapreneur or entrepreneur to the outside world. A review of this creative problem-solving training in the workplace indicates that training in creative problem-solving enhances organizational performance.

Hisrich (2005) view entrepreneurship as the process of creating something new with value by devoting the necessary time, and effort, assuring the accompanying financial, psychic, and social risk and receiving the resulting rewards of monetary and personal satisfaction and independence". The entrepreneurship literature can be classified into two perspectives; supply-side perspective and the demand-side perspective. While the supply-side perspective focuses on the availability of suitable individuals to occupy entrepreneurial roles; the demand-side, focuses on the number and nature of the entrepreneurial roles that need to be filled. The demand-side perspective suggests a number of ways to examine the context of organizational founding, such as the generation of new ventures by organizational hierarchies (Freeman 1986), the activity of the professions (Wholey et al 1993), the policy of nation-states (Dobbin & Doud 1997), the development of markets (White 1981, King & Levine 1993), and the advent of technological change (Shane 1996).

To compliment this concept, the National Directorate of Employment, Nigeria (NDE, 1989) defined entrepreneurship as the art, which involves recognizing a business opportunity, mobilizing resources and persisting to exploit that opportunity. According to Nafziger (2006), the entrepreneur can be viewed in at least four ways: (1) as the coordinator of other production resources – land, and capital; (2) as the decision maker under uncertainly; (3) as the innovator; and (4) as the gap filler and input completer. According to him, an entrepreneur (an individual or groups of individuals) has the rare capability of making up for market deficiencies or filling gaps. Bamberger and Meshoulam (2000) assert that high performance human resource practices consist of three main parts: (1) people flow, including selective staffing, training (such as more extensive, general skills training), employee mobility (for example, broad career paths, promotion within the firm) and guarantee of job security; (2) appraisal and rewards, including performance appraisal (specifically long– term, results- orientated appraisal), compensation and other benefits, such as extensive, open- ended rewards; (3) employment relations, including job design (such as broad job descriptions, flexible job assignments) and encouragement of participation.

A few set of studies focus on the impact of HRM practices upon innovation and creativity which is the main thrust of entrepreneurship. Soutaris (2002) examines the relationship between HRM and innovation in Greece. The study reported that both human capital investment and the incentives provided for contributions toward innovation were of major importance with respect to firm innovativeness. Similarly, Laursen and Foss (2003) propose the new HRM practice which advised that teamwork, delegation and performance related payment will have a greater impact on innovation when used together though such relationship might vary with the industry knowledge intensiveness.

3. Research Hypotheses

The following are the hypotheses deduced for this research work.

H_1: That Human Resources Management does not improve entrepreneurship skill acquisition.

H_2: That human Resources Management cannot facilitate entrepreneurship development.

3.1. Methodology

This study was carried out in Abeokuta, the capital of Ogun State southwest, Nigeria. This town is dominated by Yoruba's who are one of the major ethnic groups in Nigeria. Abeokuta is characterized by two climatic seasons which are dry season between November and March and the rainy season between April and October. The primary data used for this study were collected through a structured questionnaire administered to Human Resources managers and supervisors randomly selected from the industrial area. Information obtained includes respondent gender, years of experience in service etc. The respondents were also stratified along academic qualification and their levels. The data collected were analyzed using the descriptive statistics while the hypothesis formulated was tested with the Pearson product moment correlation in order to determine the nature and extent of the relationship between human resources management and entrepreneurship development in Nigeria.

4. Result and Discussion

From the data obtained, 51 (85%) of respondents are male while 9 (15%) are females. This indicates that most of the respondents are male. Also, 45 (75%) of the respondents are married, 12 (20%) are single, while 3 (5%) are divorced. Equally, 56 (93.3%) of the respondent do believe that recruitment process and procedure can determine volume of sale and turnover, though 4(10%) differ. Similarly, 52 (86.6%) of the respondents opined that appraisal system can influence the actual performance of workers in an organization, while 8 (13.4) believed contrary. About 58 (96.6%) of the respondents believed adequate welfare policy can positively influence workers while 2 (3.4%) believes it may not. While 50 (83.3%) of the respondents believe encouraging staff development will motivate staff, while 10(16.6%) believes does not.

5. Test of Hypothesis

Table 1. Human Resources Management Improves Entrepreneurship

	Mean	Std	Correlation	P.val
HRM HRM improves Entrepreneurship Development	3.05 4.61	1.150 1.595	0.44	0.00

This table above shows that 52(86.6%) of the respondents opined that appraisal system can influence the actual performance of workers in an organization, while 8 (13.4%) believed contrary. Similarly, 58 (96.6%) believe adequate welfare policy can positively influence workers while 2(3.4%) believes it may not, while 50 (83.3%) of the respondents believe encouraging staff development will motivate staff, while 10(16.6%) believes does not.

Table 2. Human Resources Management Facilitates Entrepreneurship Development

	Mean	Std	Correlation	P.val
HRM	3.05	1.150		
HRM facilitates Entrepreneurship Development	4.78	2.147	0.059	0.00

Source: Field Survey, 2011

The table above shows the relationship mean and standard deviation of relationship between Human Resources Management and HRM facilitates entrepreneurship development. The correlation is 0.059 (5.9%) and the probability value is 0.00

6. Findings

The empirical review results generated is related to Storey (2007) concluded that the concept of human resources management is a controversial one, giving it four meanings as follows. The first meaning he gave is that, it is sometimes used synonymously with personnel management; simply he is saying human resources management and personnel management is the same thing. Second meaning is that personnel management techniques are being used in an integrated and more co-ordinate way. Thirdly, it is sometimes used to signal a more business oriented and business integrated approach to the managing of people.

The findings of the result shows the t-score at 59 degree of freedom, and while the first hypothesis correlation coefficient yield 0.44 (44%) and indicate the existence of a moderate positive relationship between variables, the second hypothesis yield a correlation efficient value of 0.05(5%) indicate the existence of a weak positive relationship between human resources management and entrepreneurship development. Both scenarios imply that the null hypothesis will be accepted. This is an indication that human resources management can facilitate entrepreneurship development in an organisation.

7. Conclusion

This study examined the impact of Human Resource Management on Entrepreneur development. Entrepreneurship development was conceived as a generic process, dominated by creativity and innovation due to the fact that both concepts builds on previous knowledge and may be a combination of existing knowledge or may be able to move past barriers of existing knowledge to generate and explore new ideas and solutions. Hence, The HRM department must deploy their workers to the department where they can perform more efficiently and ensure that workers receive proper training and development through a deliberate insight on how to increase productivity and assisting with better employee assessment, selection and reduction in HR overhead cost.

8. Recommendation

The following are the recommendation derived from this study: Every organisation must strategically manage its human resource for maximum performance while HR managers must try as much as possible to make sure that their human resource are adequately compensated, rewarded and motivated to enhance their performance which will translate to improvement.

Similarly, since there is a link between Entrepreneur development and Human Resource Management in the organisation, managers should take note on how to develop the human resource in the organisation. This will also enhance future performance of the organisation. Also, managers should be more concerned and ensure that human resource practice is strategic as it affects overall performance of the organisation

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Appendix

Table 3. Sex of Respondents

		Frequency	Percentage	Cumulative percentage
Valid	Male	51	85	85
	Female	9	15	100
	Total	60	100	

Source: Field Survey 2013

Table 4. Marital status of Respondents

		Frequency	Percentage	Cumulative percentage
Valid	Married	45	75	75
	Single	12	20	95
	Divorced	3	5	100
	Total	60	100	

Source: Field Survey 2013

Table 5. Recruitment Process for Marketers Determines the Volume of Sales

Group	Frequency	Percentage
Yes	56	93.3
No	4	6.6
Total	60	100

Source: Field survey, 2013

Table 6. Appraisal System Can Affect Performance of Workers

Group	Frequency	Percentage
Yes	52	86.6
No	8	13.4
Total	60	100

Source: Field Survey, 2013

Table 7. Adequate Welfare Policy Can Influence Workers Positively

Group	Frequency	Percentage
Yes	58	96.6
No	2	3.4
Total	60	100

Source: Field Survey, 2013

Table 8. Encouraging Staff Development Will Motivate the Workers

Group	Frequency	Percentage
Yes	50	83.3
No	10	16.6
Total	60	100

Source: Field Survey, 2013

Table 9. Adequate Welfare Policy Can Influence Workers Positively

Group	Frequency	Percentage
Yes	58	96.6
No	2	3.4
Total	60	100

Source: Field Survey, 2013

Table 10. Appraisal System Can Affect Performance of Workers

Group	Frequency	Percentage
Yes	52	86.6
No	8	13.4
Total	60	100

Source: Field Survey, 2013

Table 11. Encouraging Staff Development Will Motivate the Workers

Group	Frequency	Percentage
Yes	50	83.3
No	10	16.6
Total	60	100

Source: Field Survey, 2013

Table 12. Human Resources Management improves entrepreneurship

	Mean	Std	Correlation	P.val
HRM	3.05	1.150		
HRM improves Entrepreneurship Development	4.61	1.595	0.44	0.00

Source: Author Computation, 2013

Table 13. Human Resources Management Facilitates Entrepreneurship Development

	Mean	Std	Correlation	P.val
HRM	3.05	1.150		
HRM facilitates Entrepreneurship Development	4.78	2.147	0.059	0.00

Source: Author Computation, 2013

Accounting and Auditing

The Impact of Trade Balance in the Current Account of Kosovo’s Balance of Payments

Safet Merovci[1], Edona Sekiraça[2]

Abstract: The trade deficit and specifically the current account deficit are the main challenges that Kosovo’s economy is facing. According to the Balance of Payments Statistics (BOP), the trade balance of goods is the largest component, expressed in absolute and relative terms and consequently it determines the behavior of the current account balance. Trade deficit to GDP ratio is very high - more than 50 percent. Regarding this, financing the constant deficit of the current account is becoming a real problem, because in the long run it is impossible for a country to spend more than its income without becoming a debtor to the rest of the world. Given the unchanged structure of the current account of the Balance of Payments, we conclude that, an improvement of the trade balance is a precondition to the improvement of the current account balance. This can be done through long-term and sustainable substitution of imports with domestic production and also with effective export promotion. Increasing foreign direct investment and export promotion can be considered, in the longer term, the main way to improve Kosovo's Trade Balance.

Keywords: trade balance; payment; account

JEL Classification: F36

1. Introduction

Recent developments in the economies of most countries of the world, testify to the deepening of economic and financial interdependence between countries. Many goods and services produced in specific countries are exchanged in international markets. Additionally, the financial interdependence - movement of assets/equity from one country to another - has deepened to the same extent. Today it is impossible for an economy to function in isolation from other countries or from the international markets of goods, services, capital and labor. This dependence is valid for all countries of the world, regardless of their size and/or their economic

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development. However, we can say that, for small economies of developing countries (such as Kosovo) international trade is indispensable.

The interdependence between countries has increased especially in recent years, due to the globalization of the world economy. The main economic indicators: the absolute and relative growth rates compared to GDP ratios and the relative weight of exports and imports to GDP, show greater extent of economic dependence between countries.

Kosovo's economy possesses all the features of a small economy of a country in transition and thus it is characterized by heavy dependence on international trade. It is an economy based on imports; since the end of the war, the country faces high trade deficit, as a result of the large amount of imported goods. Although export capacity has grown over the years, at the same time the imports increased, thus resulting in the worsening of the trade deficit.

High trade deficit is the only and biggest contributor to the deepening of current account deficit in the balance of payments of Kosovo, the latter reflecting economic relations with other countries recording all economic transactions in goods, services, income, assets and financial transfers between Kosovo residents and the rest of the world - the nonresidents.

Consequently, the object of study of this working paper is the Trade Balance and its impact on the Current Account of the Balance of Payments of Kosovo.

2. Key Characteristics of Foreign Trade of Kosovo

Exports and imports of goods constitute an important mechanism for Kosovo's economy, given its characteristics of a small country. An important characteristic of Kosovo's foreign trade is the great value of imports compared to the relatively small value of exports, resulting in high trade deficit. Since the end of the war, Kosovo faces high trade deficit which is constantly growing.Consequently, the economy of Kosovo is considered dependent on imports, which account for more than 45% of GDP (average 2004-2012). From 2001 until 2012 the trade deficit has increased continuously with an annual average of 10.8 percent. The figure below shows exports, imports, trade deficit and trade volume during the period 2001-2012.

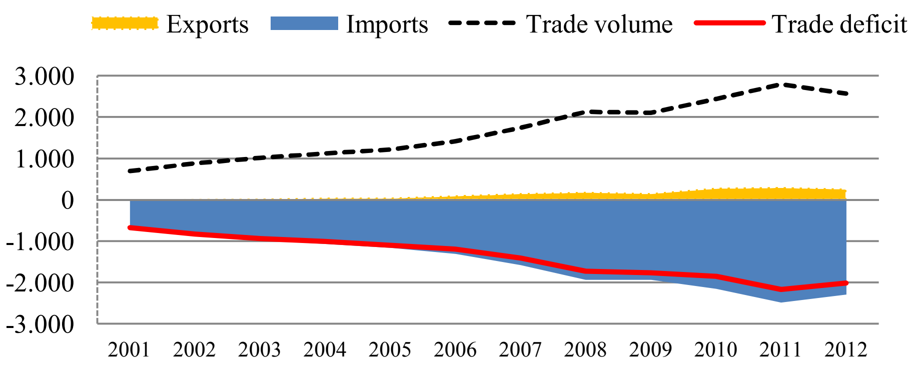

Figure1. Kosovo's Foreign Trade: Exports, Imports, Trading Volume and Trade Deficit for the Years 2001-2012, in Million Euros[1]

The high level of openness estimated by the increasing trade volume shows the small dimensions of the economy and the necessity for the use of imported goods. The trade volume at the end of 2012 was 60 percent of GDP, the largest part of 89 percent of which are imports, while exports participate with 11 percent of the total trading volume. This has caused for the trade openness of the economy of Kosovo to be unilateral, which means it is based solely on imports. The chart below shows the trade volume of Kosovo in relation to GDP, over the years.

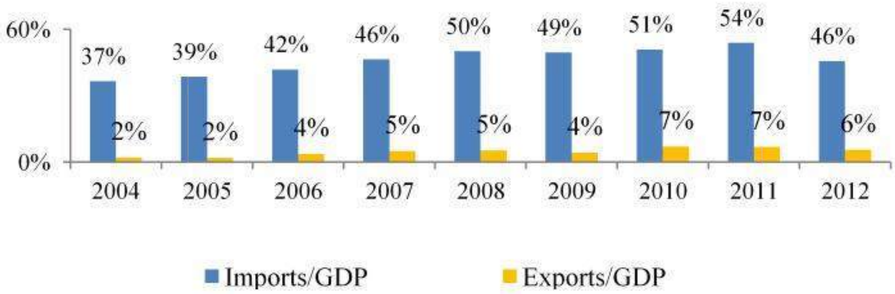

Figure 2. Exports and Imports of Kosovo Compared to GDP[2]

Although the exporting capacity increased, at the same time the imports increased resulting in the deepening of the trade deficit, which is considered the main challenge for the country's economy. Relative growth rates of imports were more stable compared with exports. Imports have increased with 12 percent, while exports increased with 43 percent per year (2001-2012 average). The level of

[1] Foreign Trade Statistics, Kosovo Agency of Statistics (KAS).
[2] IMF publications "International Financial Statistics", April 2012 and Kosovo Agency of Statistics.

coverage of imports by exports, still remains very low, although compared to ten years ago it is nearly ten times bigger: in the postwar years, the rate of coverage of imports by exports was very low, 2-3 percent, compared with a rate of 12 percent in 2012.

2.1. Exports Structure

Exports are a measure of the stability and sustainability of the economy and of the ability to compete in international markets. Kosovo, compared to the countries of the region, has the lowest level of exports. The small value of exports indicates a low level of competitiveness of Kosovo in international markets. If we look at the trend of the exports from the postwar period, they have recorded satisfactory growth, but this growth has started almost from zero. In 2001 the exports were 10.6 million Euros, while in 2012 they were 276.1 million euros, marking an increase of close to 26 times bigger. The structure of goods exported is dominated by exports of base metals, which represent about 60 percent of the total value of exports. The high concentration of exports in the category of basic metals has made Kosovo’s exports more sensitive to fluctuations in the international market. This was proven also in 2009, when as a result of the implications of the global financial crisis the total value of exports decreased, due to the falling demand and base metal prices on the international market. Reliance on exports of natural resources and commodities processed as raw material, cannot guarantee a reduction of the gap in the trade balance, respectively, cannot ensure the sustainability of the balance and increase productivity or create new employment.

The ratio of exports to GDP, an indicator that measures the sustainability of exports to gross domestic product shows a low tendency of Kosovo's economy to export. In 2010 and 2011 this indicator recorded the highest level at about 7 percent (Figure 2).

Structure of exports by categories of goods – a characteristic of the structure of exports is the very high participation of basic metals in the total value of exports (60 percent), which indicates high concentration of Kosovo exports in this category. This can be seen from Figure 3, which shows an almost parallel increase of the total value of exports and base metals exports, which makes us understand that the growth of total value of exports came due to the increase of exports of base metals.

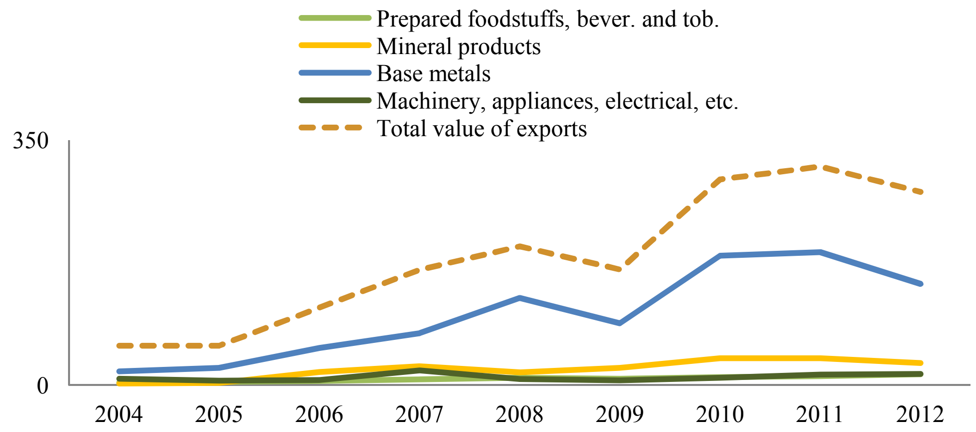

Figure 3. Main Categories of Goods Exported for the Period of 2004-2012, in Million Euros[1]

Other important categories include mining products, machineries and food products.

Structure of exports by trading partners - The structure of exports by trading partners is represented by the member states of the EU and CEFTA. By 2007, the exports of products were mainly done with the countries of the region. Since 2007, thanks to the Preferential Measures Agreement with the EU, the largest markets for Kosovo's exports are the EU countries.

2.2. Imports Structure

Imports constitute about 90 percent of Kosovo's trade with other countries, making the economy dependent on imports. The level of production in the last decade has been very low. Consequently most of the goods imported are raw materials and consumer products. Imports have grown steadily, from 684.5 million of euros in 2001 to 2,290 million of euros in 2012. In relative terms, the increase in imports was smaller than the increase in exports. If we compare 2001 and 2012, an import increased by 3.3 times more, while exports increased by 26.1 times more. It is worth noting that in recent years there was an increase in the imports of productive materials and machineries which could lead to an increase in production and substitution of imports with domestic production and thus improve export performance.

[1] Foreign Trade Statistics, KAS.

The ratio of imports to GDP shows the strong dependence of the economy on imports. It also shows the large negative contribution of imports in the domestic production of the country. This indicator in the recent years has increased to a rate of more than 50 percent of GDP.

Structure of imports by categories of goods – Unlike exports which are concentrated in the category of base metals, categories of imported goods are diversified into different groups where each category has a significant proportionate percentage to the total value of imports. Distributions of goods imported in different groups can be seen in the figure below. The structures of imports is represented by category of mineral products with 20 percent, prepared foodstuffs, beverages and tobacco with 14 percent, machinery, mechanical and electrical equipment with 12 percent and base metals and articles thereof with 9 percent. Distributions of goods imported in different groups can be seen in the figure below.

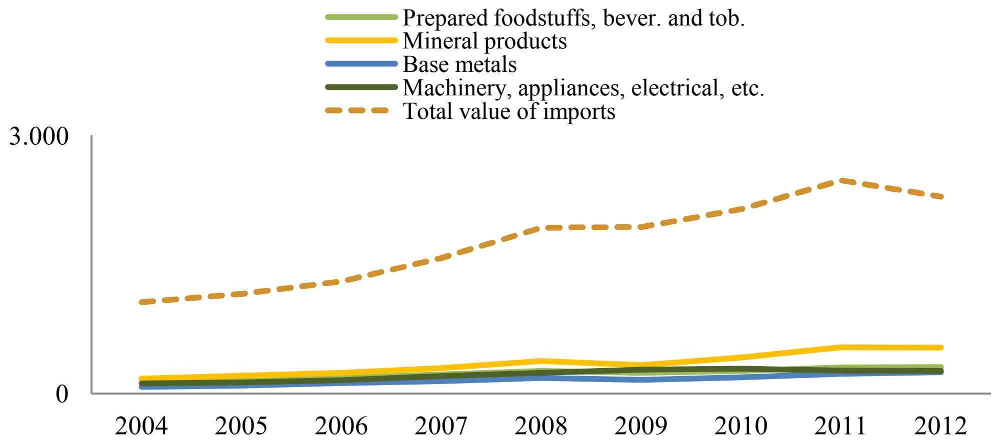

Figure 4. Main Categories of Goods Imported for the Period of 2004-2012, in Million Euros[1]

Structure of imports by trading partners – the structure of imports by trading partners is dominated by member states of the EU and CEFA. From the year of 2004 and 2012, more than ¾ of Kosovo trade exchanges were conducted with these groups of countries. 38 percent of the goods imported in Kosovo come from EU countries, while a similar share of 37 percent come from CEFTA countries.

[1]Foreign Trade Statistics, KAS.

3. Key Characteristics of the Current Account of Kosovo's Balance of Payments

The balance of payments summarizes the financial aspects of international trade. In the case of Kosovo's trade with the rest of the world, the balance of payments is the summary of all transactions including export and import of goods, services, investment income, transfers, movements of assets - such as foreign direct investments, investments in securities and other investments, debt foreign investment and international reserves.

A characteristic of the Balance of Payments of Kosovo is the huge current account deficit which is caused by the trade deficit. The current account is defined as the sum of the difference between exports and imports of goods, services, income and current transfers. Another definition of the current account highlights the difference between national savings and national investments. In this context, the current account deficits natural for the case of Kosovo considering the fact that the country's economy is in the development stage and needs investments. As such, Kosovo's economy cannot fulfill the necessity of investments with the accumulated savings. This results in excess of investments versus savings. So, the current account deficit of balance of payments shows that Kosovo is investing more than it is saving, it produces less than it spends and therefore it is using the resources of other economies to meet consumer demand and investments. Kosovo owes to other counties the negative value that is recorded in the current account and therefore measures need to be taken in order to find a way to pay of this part where expenses exceed income.

Since 2004, the current account deficit has increased continuously with the highest level reached in 2011, scoring 15 percent of GDP (Figure 5)[1]. During the period 2004-2007 the increase was smaller and the current account deficit was generally more stable. It deteriorated in 2008 when it scored a double value compared to the previous year, from 214 million to 460 million euros. The criteria of 5 percent of the current account deficit to GDP, obviously does not apply to the balance of payments of Kosovo as it was violated repeatedly throughout the history of the balance of payments. The lowest level of the current account deficit to GDP, which was 1 percent above the criteria, was recorded in 2007. The ratio in 2007 was about 6 percent. While the highest level of current account deficit to GDP, which is considered a critical level, was recorded in 2011, about 15 percent, which should draw attention to the need to assess affordability, meaning the possibility to sustain the deficit. The figure below shows the time series of the current account deficit and its ratio to GDP.

[1]Balance of payments (BOP) statistics are compiled and published by Statistics Department in Central Bank of the Republic of Kosovo.During the period 2004-2008 BOP statistics are compiled on annual basis. Starting from 2009, BOP is compiled on quarterly basis.

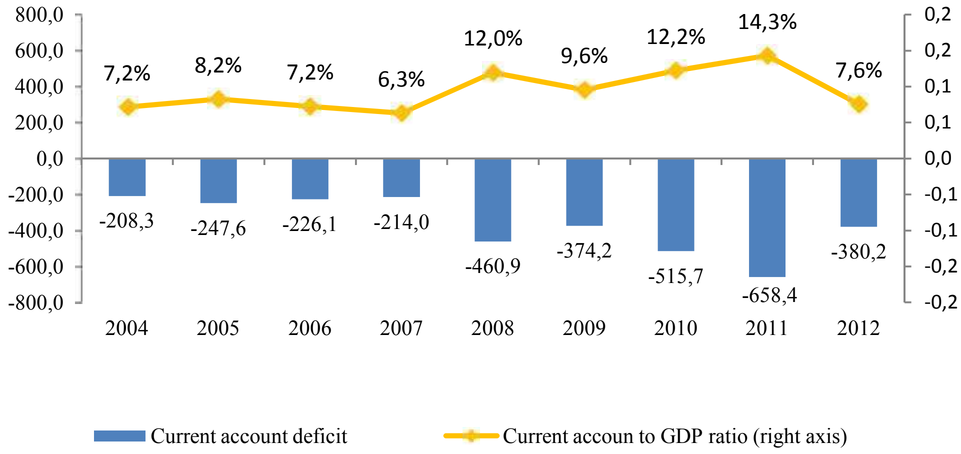

Figure 5. Current Account Deficit of Kosovo's BOP and Its Ratio to GDP for the Period of 2004-2012[1]

According to the balance of payments statistics, the trade deficit is the most important component that determines the behavior of the current account balance. The trade balance is the only component that contributes to the current account deficit. The three other components of the current account (services account, income and current transfers) have a positive impact on alleviating its deficit. Consequently, Kosovo is a net importer of goods and a net exporter of services, income and unilateral transfers.

3.1. The Impact of Trade Balance in the Current Account

The trade balance has the leading role in the balance of payments of Kosovo in absolute and relative terms. It reflects the difference between the value of goods exported and goods imported for a certain period of time. The trade balance represents the debits and credits created when countries exchange goods. Kosovo's trade balance is the main cause of the current account deficit. Also, in most countries of the region, the main cause of the current account deficit is the trade deficit. The main factors affecting the trade deficit of these countries are the lack of competitiveness and productivity, given that most countries in the region have faced prolonged transition periods and production problems.

[1]Time series statistics, CBK.

The behavior of trade deficit during 2001-2012, and its ratio to GDP is shown in the following figure.

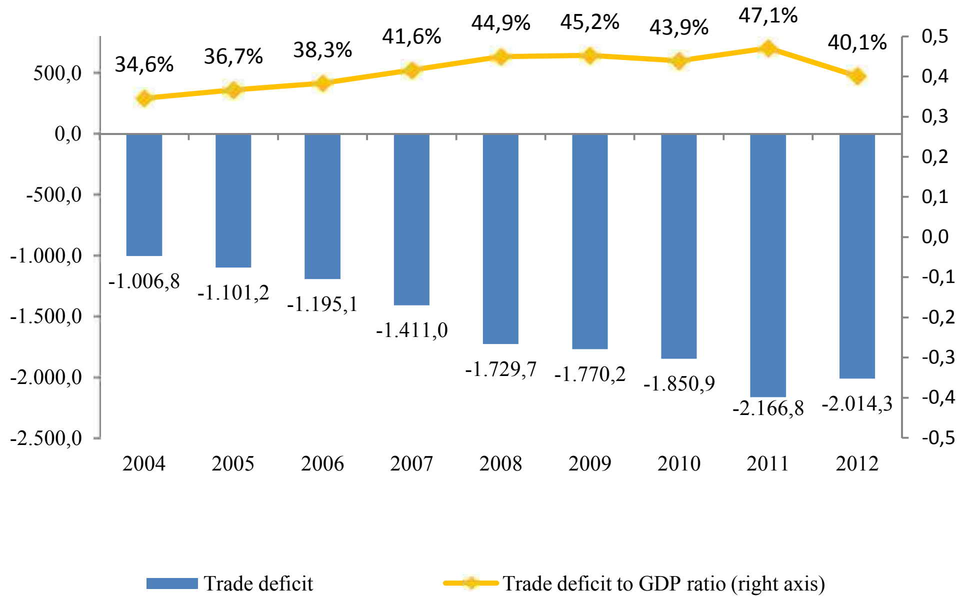

Figure 6. Trade Deficit in Million Euros and the Ratio to GDP (Right Axes)[1]

As seen from the figure, the trade deficit ratio to GDP has decreased, though it still remains quite high. However, in absolute terms, the deficit has increased continuously, amounting to 2 billion euros in 2012, which is a very high level considering the overall level of foreign transactions.

Transactions of trade in goods in 2012 comprise more than 50 percent of all transactions recorded in the current account. Consequently, the trade deficit as a permanent feature of the foreign trade has consistently dictated high levels of current account deficit. The figure below shows the relative importance of each of the components that make up the account. The only component that marks a negative value is the trade balance, which due to its weight, determines the behavior of the current account. The three other components - services, income and current transfers - have a positive impact in narrowing the negative value caused by the trade balance.

[1]Time series statistics, CBK.

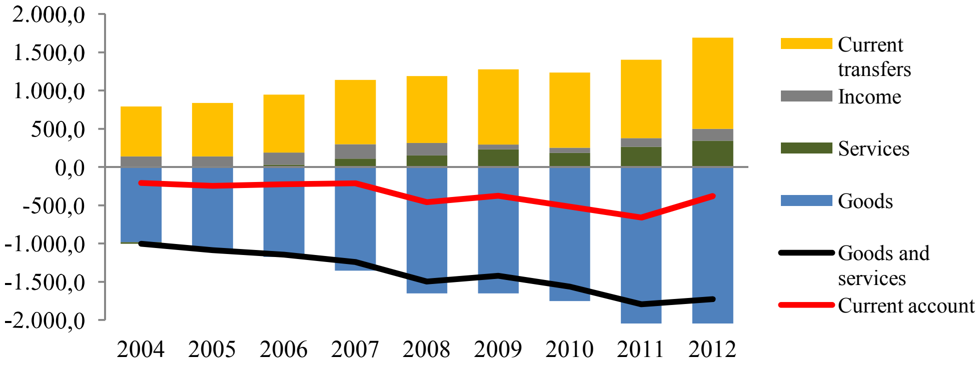

Figure 7. The Impact of Trade Balance and Other Components on the Current Account Deficit during the Period 2004-2012, in Million Euros[1]

Services account has been consistently positive, although the impact of this account in the current account balance cannot be considered important. However, the surplus of the services account makes Kosovo a net exporter of services to the rest of world. This causes the sum of goods and services balance to be smaller than the trade deficit. The travel services, which are largely provided to migrants visiting Kosovo, have the largest contribution within the services account.

Apart from the services, the income account has also a positive impact on the current account. Compensations of Kosovo residents working abroad have the greatest contribution to the surplus of the income account. The other component of income account, which is investment income has a negative balance which indicates that payments for investments within the country are greater than the receipts from investments abroad, thus contributing negatively to the balance of the income account.

The current transfers account has the most important role in reducing the current account deficit. Current transfers take the form of workers' remittances which represent an important source for the economy by providing a continuous flow of deficit financing. The contribution of remittances to deficit financing is estimated to be around 35 percent (2004-2012 average), while the positive balance of current transfers account is more than two times greater than the negative balance of the current account. This shows that the gap between the positive balance of the transfers account and the negative balance of the current account is filled by the trade deficit which at the same time determines the behavior of the current account.

Figure 7 shows the amount of goods and services account marked in black, and the current account marked in red. These two indicators are parallel to each other,

[1]Time series statistics, CBK.

which confirm what has been said so far: the trade deficit determines the behavior of the current account deficit, while the difference between the two is attributed to the current transfers.

3.2. Affordability and Financing of the Current Account Deficit

The concept of affordability of the current account deficit is a complex concept. It is very difficult to find a simple rule to estimate whether the account deficit that a country is facing is sustainable or not. In economic literature, however, there are many criterias recommended to be used for this kind of assessment. Theoretically, the degree to which the economy fulfills its international financial obligations is an effective way to measure the sustainability of the current account deficit. It is generally accepted that a level above 5 percent in the current account deficit to GDP ratio should draw attention to the need to assess affordability, meaning the possibility to sustain the current account deficit. The deficit affordability is also affected by the deficit structure. If the current account deficit is caused by the trade deficit, which reflects a lack of competitiveness of the economy and therefore affordability becomes problematic.

If we compare the data of the current account balance of Kosovo' s BOP with the respective data of the neighboring countries we can see similar structural problems of the economies, which shows that in general they are also characterized by high levels of deficit. In some of them, the deficit levels above 5 percent of GDP have been present for a long period of time, while they are not recorded as external sector crisis. For example, in Albania, after three years of positive surplus, in 1996 current account deteriorated recording a deficit of 2.3 percent of the GDP. During the 1997 crisis, the deficit reached 11.1 percent of the GDP, just to get back to normal – below 5 percent - in the years 1999-2000. The deficit surpassed the critical level of 5 percent of GDP in 2001, undergoing a very rapid growth in 2002, to reach the level of 9 percent of GDP. Therefore, we can say that for countries like Kosovo and Albania, and generally, transition countries of the region which depend largely on foreign aid, the limit of 5 percent has not served as a warning sign of potential crisis of the external sector. [1]

The ratio of current account deficit to GDP, based on the data from of the beginning of Kosovo's BOP statistics is 10 percent on average, which can be interpreted as twice the warning limit. While the focus of the sustainability of the current account deficit is the country's ability to withstand external debt, let us refer to the criterion that compares the dynamics of the stock of external debt, with growth rates of GDP. In late 2011, the accumulated net external debt (public and

[1] Ahmet Mançellari and Selami Xhepa "Sustainability of the current account balance".

private) reached about 1.43 billion euros[1], or 31 percent of GDP. The level of this indicator is relatively low compared with other countries in the region. Meanwhile, the annual level of external debt (annual additions of the stock of debt) in 2012 was about 2 percent of GDP, while the average annual growth of GDP was around 3 percent. Thus, the increase of external debt is below the annual growth of the economy. In the point of view of this criterion, the current account deficit can be considered affordable.

The current account deficit of Kosovo's BOP is largely financed by migrant's remittances and foreign direct investments.

The negative effect of the current account deficit is mitigated by the positive balance of the current transfers' account, which mainly consists of remittances. The current transfers account is continually characterized by a positive balance. Migrant's remittances have a positive effect on the current account balance and represent one of the most important components of consumer financing in the country. They make up about 12 percent of GDP in Kosovo (2012).

3.3. Sustainability of the Current Account Balance

Foreign direct investments continue to be an important source of capital flows and economic development. Foreign direct investments include investments of foreign individuals and institutions in the local economy, if the investment makes the investor owner of more than 10% of the equity of an enterprise. In Kosovo, the direct investments have increased, but not at a satisfactory level considering the emergent need to increase employment and improve the country's prosperity. Furthermore, FDI can be the most effective solution to improve Kosovo's trade balance. But the situation is worrying because, since 2007 when FDI reached the highest level, they continued to decline, and, given the country's unilateral eurization they are a *conditio sine qua non* for economic stability. Domestic investments can also be considered as a good opportunity to improve the economic situation of the country. Our domestic natural resources, human and material resources are abundant, although measures need to be taken to improve the processing and encourage exploitation of these resources.

4. Conclusions

Kosovo's economy has all the characteristics of a small economy of a country in transition. As such, it has a greater dependence on international trade, which is represented by a high degree of trade openness. In 2011 this indicator marked the highest level in the last decade, about 61 percent of GDP, which is also the highest compared with the countries of the region. Kosovo trade volume consists of 90

[1]Time series statistics, CBK.

percent imports and only 10 percent exports. Consequently, the trade deficit is very high and as such it is one of the challenges of our economy.

The dominant role of the trade deficit in the current account deficit is one of the main threats concerning the sustainability of the latest. Therefore, improvement of the current account balance in the longer term can be identified with the improvement of the trade balance. This may not necessarily be achieved by reducing imports, because imports of capital goods should be encouraged. Also, an attempt to reduce consumption of imported goods would not be useful. However, efforts should be made regarding the substitution of imports with domestic production and exports promotion. In this context, based on the comparative advantages that Kosovo has, some indications can be drawn based on the potential factors of production, natural resources and human capital. Extractive industries and the energy sector remain industries with comparative advantage. Kosovo has obvious advantages in the production of electricity, given the huge demand for power in the region and beyond, and the low cost of coal based energy. Besides, other mineral resources have a significant production potential.

Given the structure of the current account of Kosovo's BOP, we can conclude that improving the current account balance requires first of all an improvement of the trade balance. Related to in, the growth in exports is critical to the economic development of our country and the only choice for improving the trade balance. In this context, the proposed recommendations are:

- Kosovo institutions should take urgent steps aimed at promoting the export sector. This requires improvement of fiscal policies and stimulation of production. Export promotion can be considered the main way to improve the trade balance;
- FDI is an important source of financing the economy. In this context, policymakers should focus on increasing investments towards export-oriented activities. Also, domestic investment can also be viewed as an opportunity to improve the economic situation of the country. Therefore an improvement of the investing environment is required. Kosovo has potential in the mining and energy industry;
- Remittances remain a very important factor in the dynamics of economic activity in Kosovo, but this also requires to find ways of diverting remittances from consumption towards capacity building of small and medium-sized enterprises, which would result in the reduction of imported goods and increase the exports of services.

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Perceived Costs and Benefits of IFRS Adoption of Cross-Border Mergers: A Statistical Analysis of Indian and Chinese Companies

Ibrahim Mert [1]

Abstract: The purpose of this quantitative study was to examine the links between IFRS adoption status, mergers tempo, and perception of IFRS costs and benefits among Indian and Chinese companies. As more capital accrues in India and China, more cross-border mergers activity initiated from these countries should be expected. This paper is trying to extant a research to observe the results related the adaption of IFRS in India and China. During the analyses around 2 authors' books were related to this paper. During the study it was focused to collect information observation through published academic books and articles. Some questions raised by the increased tempo of cross-border mergers activity are as follows: (a) What are the differences between Indian and Chinese companies' perceptions of IFRS costs and benefits? (b) What are the differences between IFRS adopters and IFRS non-adopters in perceptions of IFRS costs and benefits? This study identified some significant differences between Indian and Chinese companies' perceived IFRS costs and benefits, centering on the role that management accounting played for Chinese companies. Additionally, there were significant differences between how IFRS adopters and non-adopters perceived IFRS in terms of statement simplification, global credibility, and investor attractiveness. This study provides a statistical analysis for the IFRS adaption process of Indian and Chinese companies for the cross-border merger actions.

Keywords: Accounting; financial standards; accounting cost; IFRS adoption process

JEL Classification: M41

1. Introduction

The purpose of this statistical analysis was to tabulate and examine Indian and Chinese companies' perceived costs and benefits of International Financial Reporting Standards (IFRS) adoption. Indian and Chinese companies are increasing their participation in international mergers activity (Athreye & Kapur, 2009); moreover, both cross-border mergers and IFRS adoption have been on the increase over the past two decades, but scholars have not yet sufficiently examined the potential connections between cross-border mergers, IFRS adoption, and IFRS attitudes.

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As IFRS spreads, it is necessary to understand whether IFRS is more or less likely to suppress mergers activity for reasons of perceived complexity, cost, or other disadvantages. This analysis is perhaps most important in the context of geographies such as Asia, which are not jurisdictionally unified in the manner of the EU or the United States and in which IFRS adoption often remains a matter of organizational choice. In India, for example, there is as yet no mandate for IFRS adoption (Mirza, 2012) and the Chinese Accounting Standards (CAS) has not yet achieved full convergence to IFRS (Wei, 2012). As more and more capital concentrates in India and China, Indian and Chinese companies have more ability and motivation to engage in cross-border mergers. So much is known; what is not known is how Asian companies that have engaged in cross-border mergers feel about the costs and benefits of IFRS and what their IFRS adoption status is. Accordingly, the purpose of this empirical study was to explore the relationship between IFRS adoption status, mergers tempo, revenue, and the perceived costs and benefits of IFRS adoption among Indian and Chinese companies.

2. Sample and Descriptive Statistics

The sample consisted of 60 Indian and Chinese companies recruited through a direct mail campaign. The sample was equally divided between Indian (N=30) and Chinese (N=30) companies. The Indian companies were evenly split between Indian Generally Accepted Accounting Practices (GAAP) and IFRS, while all the Chinese companies were CAS adopters:

Table 1. Accounting Standards Currently in Use

	Frequency	Percent
Indian GAAP	15	25.0
IFRS	15	25.0
CAS (Converged IFRS)	30	50.0
Total	**60**	**100.0**

Most of the companies were either thinking about, or had already engaged in, cross-border mergers:

Table 2. Mergers Status

	Frequency	Percent
Not considering international mergers	9	15.0
Actively considering first international mergers	23	38.3
Have already completed one international mergers	16	26.7
Have already completed more than one international mergers	12	20.0
Total	**60**	**100.0**

The companies fell into a wide variety of revenue ranges:

Table 3. Revenue Ranges in Sample

	Frequency	Percent
10m USD-25m USD	12	20.0
26m USD-50m USD	16	26.7
51m USD-99m USD	8	13.3
100m USD-250m USD	12	20.0
Over 250m USD	12	20.0
Total	**60**	**100.0**

Most of the companies had intentions to adopt IFRS

Table 4. IFRS Adoption Intentions

	Frequency	Percent
No plans to adopt IFRS	11	18.3
Will adopt IFRS within 12 months	11	18.3
Will adopt IFRS within 12-24 months	16	26.7
Will adopt IFRS in 24+ months	7	11.7
Already adopted IFRS	15	25.0
Total	**60**	**100.0**

In addition to being asked about country of origin, revenue range, IFRS adoption status, and cross-border mergers status, companies in the sample were asked to specify their extent of agreement or disagreement with the following eight prompts: (1) IFRS is inexpensive, (2) IFRS does not require extensive accounting experience, (3) IFRS simplifies mergers, (4) IFRS simplifies financial statements, (5) IFRS provides transparency, (6) IFRS is attractive to investors, (7) IFRS provides global credibility, and (8) IFRS improves management accounting. An overview of company responses to these prompts appears in

Table 5. Responses to IFRS Prompts (by Frequency)

Prompt*	Disagree completely	Disagree	Disagree slightly	Neither agree nor disagree	Agree slightly	Agree	Agree completely
1	20	19	21	0	0	0	0
2	21	24	15	0	0	0	0
3	18	13	14	9	5	1	0
4	11	16	9	8	12	4	0
5	8	7	5	6	7	11	16
6	0	0	8	18	12	12	10
7	0	0	10	11	15	10	14
8	0	11	9	11	14	5	10

** Prompt key: (1) IFRS is inexpensive, (2) IFRS does not require extensive accounting experience, (3) IFRS simplifies mergers, (4) IFRS simplifies financial statements, (5) IFRS provides transparency, (6) IFRS is attractive to investors, (7) IFRS provides global credibility, and (8) IFRS improves management accounting.*

On the whole, it appeared that the sample found IFRS to be expensive, demanding of significant accounting expertise, and associated with more complexity in terms of mergers and preparing financial statements. Conversely, the sample found IFRS to promote transparency, attract investors, provide global credibility, and improve management accounting. An inferential overview of these findings will be provided later in the study.

A visual overview of country-specific IFRS adoption status, revenue range, and cross-border mergers activity follows in Figures 1-3 below, after which Table 6 presents the difference in means between Indian and Chinese companies' perceived costs and benefits of IFRS. These differences, too, will be examined inferentially later in the study.

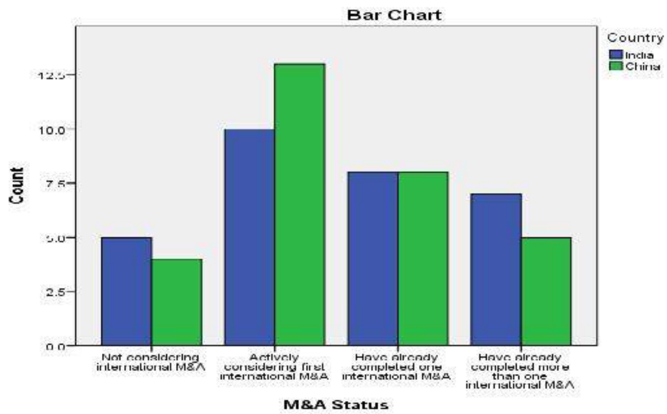

Figure 1. Mergers Differences between Indian and Chinese Companies

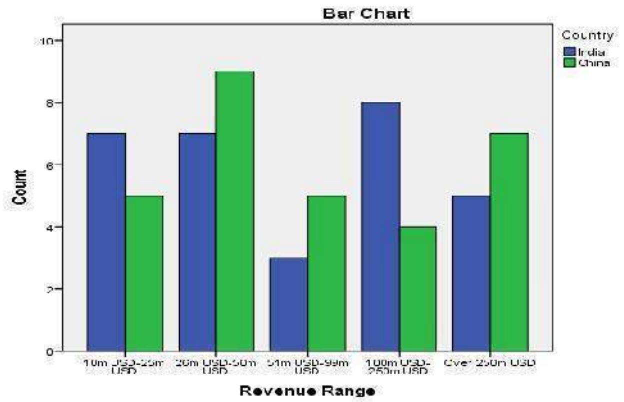

Figure 2. Revenue Differences between Indian and Chinese Companies

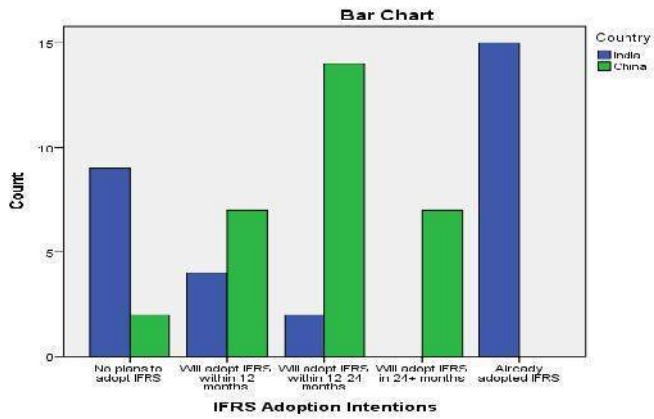

Figure 3. IFRS Adoption Status Differences between Indian and Chinese Companies

Table 6. Differences between Indian and Chinese Companies' IFRS Cost / Benefit Perceptions

	Country	Mean	Std. Deviation	Std. Error Mean
IFRS is Inexpensive	India	2.03	.809	.148
	China	2.00	.871	.159
IFRS Does Not Require Extensive Accounting Experience	India	1.90	.759	.139
	China	1.90	.803	.147
IFRS Simplifies mergers	India	2.67	1.322	.241
	China	2.43	1.431	.261
IFRS Simplifies Financial Statements	India	3.13	1.634	.298
	China	3.07	1.596	.291
IFRS Provides Transparency	India	4.43	2.402	.439
	China	4.70	1.968	.359
IFRS is Attractive to Investors	India	4.93	1.413	.258

	China	5.00	1.232	.225
IFRS Provides Global Credibility	India	5.07	1.311	.239
	China	5.17	1.510	.276
IFRS Improves Management Accounting	India	4.23	1.695	.310
	China	4.53	1.697	.310

The significance of the measured differences will be further quantified and discussed in the data analysis section.

3. Data Analysis

One of the most interesting findings to emerge from data analysis was that there were no statistically-significant differences between Indian and Chinese companies' perceptions of IFRS costs and benefits:

a. Contrasts between Indian and Chinese Companies

Table 7. Levene's Test for Equality of Means, IFRS Cost / Benefit Perceptions of Indian and Chinese Companies

		t-test for Equality of Means		
		df	**Sig. (2-tailed)**	**Mean Difference**
IFRS is Inexpensive	Equal variances assumed	58	.878	.033
	Equal variances not assumed	57.684	.878	.033
IFRS Does Not Require Extensive Accounting Experience	Equal variances assumed	58	1.000	.000
	Equal variances not assumed	57.815	1.000	.000
IFRS Simplifies mergers	Equal variances assumed	58	.514	.233
	Equal variances not assumed	57.640	.514	.233
IFRS Simplifies Financial Statements	Equal variances assumed	58	.874	.067
	Equal variances not assumed	57.967	.874	.067
IFRS Provides Transparency	Equal variances assumed	58	.640	-.267
	Equal variances not assumed	55.835	.640	-.267
IFRS is Attractive to Investors	Equal variances assumed	58	.846	-.067
	Equal variances not assumed	56.945	.846	-.067
IFRS Provides Global Credibility	Equal variances assumed	58	.785	-.100
	Equal variances not assumed	56.878	.785	-.100

IFRS Improves Management Accounting	Equal variances assumed	58	.496	-.300
	Equal variances not assumed	58.000	.496	-.300

None of the *p* values for the eight prompts were <.05. Accordingly, it seemed that Indian and Chinese companies were largely of the same mind when evaluating both the costs and benefits of IFRS. However, some interesting differences emerged when a comparison was made between (a) companies that had no plans to implement IFRS and (b) companies that had either already adopted IFRS or that had active plans to do so.

b. Contrasts between IFRS Adopters / Planned Adopters and Non-Adopters

Table 8. Descriptive Statistics, IFRS Adopters / Planned Adopters and Non-Adopters

	Mergers Status	N	Mean	Std. Deviation	Std. Error Mean
IFRS is Inexpensive	Adopters	51	2.04	.848	.119
	Non-Adopters	9	1.89	.782	.261
IFRS Does Not Require Extensive Accounting Experience	Adopters	51	1.94	.810	.113
	Non-Adopters	9	1.67	.500	.167
IFRS Simplifies mergers	Adopters	51	2.16	1.046	.147
	Non-Adopters	9	4.78	.667	.222
IFRS Simplifies Financial Statements	Adopters	51	2.82	1.519	.213
	Non-Adopters	9	4.67	1.118	.373
IFRS Provides Transparency	Adopters	51	5.08	1.885	.264
	Non-Adopters	9	1.67	1.323	.441
IFRS is Attractive to Investors	Adopters	51	5.24	1.210	.169
	Non-Adopters	9	3.44	.726	.242
IFRS Provides Global Credibility	Adopters	51	5.06	1.348	.189
	Non-Adopters	9	5.44	1.740	.580
IFRS Improves Management Accounting	Adopters	51	4.29	1.770	.248
	Non-Adopters	9	4.89	1.054	.351

It appeared that the differences in perceived IFRS costs and benefits between adopters and non-adopters were much greater than country-specific differences. An independent samples *t*-test was used to test the significance of perceived differences. The results are presented in Table 9 below and indicate that the differences in the following prompts are significant: (a) IFRS simplifies financial statements, (b) IFRS is attractive to investors, and (c) IFRS provides transparency. Adopters were less sanguine about IFRS's ability to simplify financial statements, more confident about IFRS's transparency, and more convinced that IFRS was attractive to investors.

Table 9. Levene's Test for Equality of Means, IFRS Cost / Benefit Perceptions of IFRS Adopters and Non-Adopters

		t-test for Equality of Means		
		df	Sig. (2-tailed)	Mean Difference
IFRS is Inexpensive	Equal variances assumed	58	.930	.022
	Equal variances not assumed	27.260	.925	.022
IFRS Does Not Require Extensive Accounting Experience	Equal variances assumed	58	.849	-.044
	Equal variances not assumed	27.196	.840	-.044
IFRS Simplifies mergers	Equal variances assumed	58	.306	-.422
	Equal variances not assumed	21.688	.343	-.422
IFRS Simplifies Financial Statements	Equal variances assumed	58	.001	-1.556
	Equal variances not assumed	25.582	.001	-1.556
IFRS Provides Transparency	Equal variances assumed	58	.000	2.622
	Equal variances not assumed	26.496	.000	2.622
IFRS is Attractive to Investors	Equal variances assumed	58	.000	1.556
	Equal variances not assumed	38.639	.000	1.556
IFRS Provides Global Credibility	Equal variances assumed	58	.713	.156
	Equal variances not assumed	24.029	.715	.156
IFRS Improves Management Accounting	Equal variances assumed	58	.965	-.022
	Equal variances not assumed	25.128	.965	-.022

c. Principal Components Analysis

The next form of data analysis was principal components analysis (PCA) with Varimax rotation. PCA was an important form of data analysis because of its ability to identify links between the various costs and benefits of IFRS, thus leading to a more precise understanding of Indian and Chinese companies' IFRS perceptions. The first three cases of PCA focused on (1) all companies in the sample, (2) Indian companies only, and (3) Chinese companies only. The results for the entire sample are presented below.

d. PCA for Entire Sample Communalities

Table 10. PCA, All Companies in Sample

	Initial	Extraction
IFRS is Inexpensive	1.000	.138
IFRS Does Not Require Extensive Accounting Experience	1.000	.112
IFRS Simplifies mergers	1.000	.524
IFRS Simplifies Financial Statements	1.000	.863
IFRS Provides Transparency	1.000	.922
IFRS is Attractive to Investors	1.000	.908
IFRS Provides Global Credibility	1.000	.581
IFRS Improves Management Accounting	1.000	.367

Extraction Method: Principal Component Analysis.

Table 11. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.052	38.149	38.149	3.052	38.149	38.149
2	1.363	17.036	55.185	1.363	17.036	55.185
3	.987	12.336	67.521			
4	.920	11.503	79.024			
5	.859	10.737	89.760			
6	.609	7.617	97.377			
7	.150	1.880	99.257			
8	.059	.743	100.000			

Table 12. Total Variance Explained

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	3.040	37.994	37.994
2	1.375	17.191	55.185
3			
4			
5			
6			
7			
8			

Extraction Method: Principal Component Analysis.

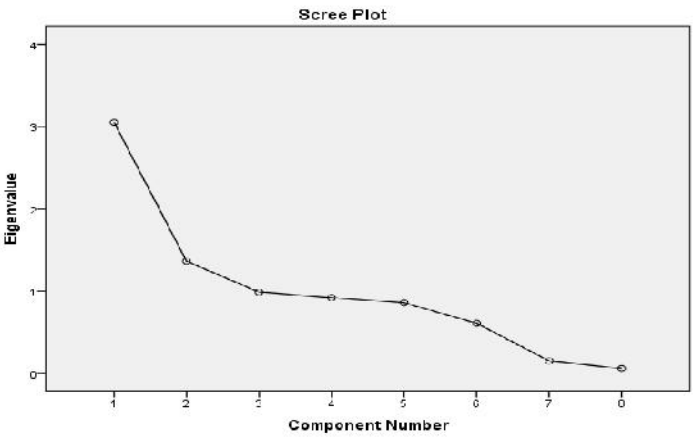

Figure 4. PCA, All Companies in Sample

Table 13. Component Matrix [a]

	Component	
	1	2
IFRS Provides Transparency	.960	
IFRS is Attractive to Investors	.951	
IFRS Simplifies Financial Statements	-.927	
IFRS Does Not Require Extensive Accounting Experience		
IFRS Provides Global Credibility		.737
IFRS Improves Management Accounting		.606
IFRS Simplifies mergers		.562
IFRS is Inexpensive		

Extraction Method: Principal Component Analysis.[a]

a. 2 components extracted.

Table 14. Rotated Component Matrix a

	Component	
	1	2
IFRS Provides Transparency	.956	
IFRS is Attractive to Investors	.943	
IFRS Simplifies Financial Statements	-.918	
IFRS Does Not Require Extensive Accounting Experience		
IFRS Provides Global Credibility		.751
IFRS Improves Management Accounting		.602
IFRS Simplifies mergers	-.503	.520
IFRS is Inexpensive		

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 3 iterations.

Table 15. Component Transformation Matrix

Component	1	2
1	.996	.086
2	-.086	.996

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

PCA for all companies revealed (a) a strong linkage between belief in IFRS transparency and attractiveness to investors, (b) a strong linkage between lack of belief in IFRS's simplification of financial statements and simplification of mergers, and (c) a strong linkage between belief in IFRS's global credibility, improvement of management accounting, and simplification of mergers. The presence of mergers simplification in both components extracted from the rotation was an important clue as to how companies through about this aspect of IFRS. It seems that mergers might have simplified financial statements if it was embraced as an inspiration for management accounting and because of global credibility considerations. On the other hand, perhaps companies that were chasing IFRS because of investor attractiveness and transparency did not experience IFRS's ability to simplify financial statements. This conclusion requires more rigorous and comprehensive testing, but it seems possible that approaching IFRS from the standpoint of management accounting somehow increases the likelihood that an IFRS implementation will result in simplified financial reporting.

e. PCA for Indian Companies Only

Table 16. Communalities

	Initial	Extraction
IFRS is Inexpensive	1.000	.584
IFRS Does Not Require Extensive Accounting Experience	1.000	.410
IFRS Simplifies mergers	1.000	.418
IFRS Simplifies Financial Statements	1.000	.899
IFRS Provides Transparency	1.000	.938
IFRS is Attractive to Investors	1.000	.947
IFRS Provides Global Credibility	1.000	.708
IFRS Improves Management Accounting	1.000	.762

Extraction Method: Principal Component Analysis.

Table 17. Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.972	37.150	37.150	2.972	37.150	37.150
2	1.687	21.092	58.243	1.687	21.092	58.243
3	1.006	12.571	70.813	1.006	12.571	70.813
4	.894	11.173	81.986			
5	.767	9.588	91.575			
6	.505	6.307	97.881			
7	.128	1.601	99.482			
8	.041	.518	100.000			

Table 18. Total Variance Explained

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	2.952	36.899	36.899
2	1.388	17.349	54.248
3	1.325	16.565	70.813
4			
5			
6			
7			
8			

Extraction Method: Principal Component Analysis.

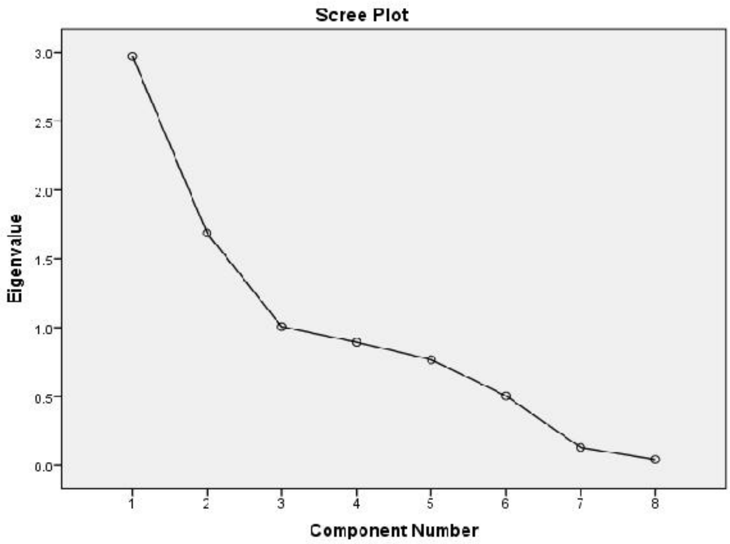

Figure 5. PCA, for Indian Companies only

Table 20. Rotated Component Matrix [a]

	Component		
	1	**2**	**3**
IFRS is Attractive to Investors	.973		
IFRS Provides Transparency	.966		
IFRS Simplifies Financial Statements	-.944		
IFRS is Inexpensive		.764	
IFRS Does Not Require Extensive Accounting Experience		.637	
IFRS Provides Global Credibility		-.608	.580
IFRS Improves Management Accounting			.865
IFRS Simplifies mergers			

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 5 iterations.

Table 21. Component Transformation Matrix

Component	1	2	3
1	.992	.088	-.089
2	.125	-.734	.668
3	.006	.674	.739

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

There were some interesting distinctions in the PCA conducted on Indian companies. These distinctions will be discussed after presenting the PCA for Chinese companies only:

f. PCA for Chinese Companies Only

Table 22. Communalities

	Initial	Extraction
IFRS is Inexpensive	1.000	.562
IFRS Does Not Require Extensive Accounting Experience	1.000	.362
IFRS Simplifies mergers	1.000	.735
IFRS Simplifies Financial Statements	1.000	.850
IFRS Provides Transparency	1.000	.907
IFRS is Attractive to Investors	1.000	.843
IFRS Provides Global Credibility	1.000	.680
IFRS Improves Management Accounting	1.000	.737

Extraction Method: Principal Component Analysis.

Table 23. Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.315	41.443	41.443	3.315	41.443	41.443
2	1.288	16.096	57.539	1.288	16.096	57.539
3	1.073	13.411	70.950	1.073	13.411	70.950
4	.874	10.921	81.871			
5	.743	9.291	91.162			
6	.514	6.429	97.592			
7	.137	1.718	99.310			
8	.055	.690	100.000			

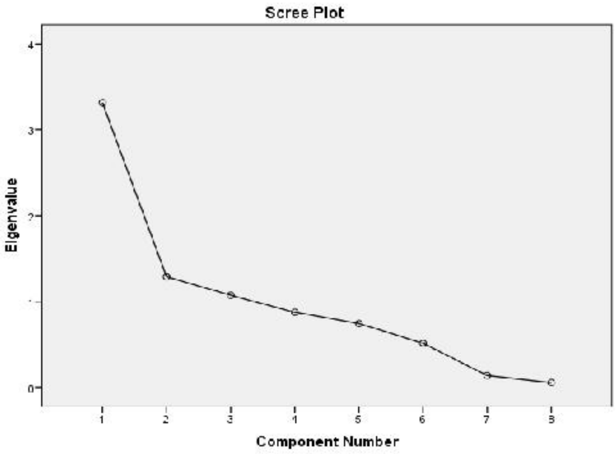

Figure 6. PCA, For Chinese Companies only

Table 24. Component Matrix [a]

	Component		
	1	2	3
IFRS Provides Transparency	.950		
IFRS Simplifies Financial Statements	-.918		
IFRS is Attractive to Investors	.916		
IFRS Does Not Require Extensive Accounting Experience	.547		
IFRS Simplifies mergers		.724	
IFRS Provides Global Credibility		.637	
IFRS is Inexpensive			.702
IFRS Improves Management Accounting		.523	.689

Extraction Method: Principal Component Analysis.[a]
a. 3 components extracted.

Table 25. Rotated Component Matrix [a]

	Component		
	1	2	3
IFRS Provides Transparency	.920		
IFRS Simplifies Financial Statements	-.915		
IFRS is Attractive to Investors	.903		
IFRS Does Not Require Extensive Accounting Experience	.580		
IFRS Simplifies mergers		.788	
IFRS Provides Global Credibility	.529	.616	
IFRS Improves Management Accounting			.785
IFRS is Inexpensive			-.652

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 5 iterations.

Table 26. Component Transformation Matrix

Component	1	2	3
1	.983	-.182	.030
2	.168	.950	.262
3	.076	.252	-.965

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

g. Comparison and Contrast of Indian and Chinese Companies' PCA

The PCA revealed some important similarities as well as dissimilarities between Indian and Chinese companies' attitudes to IFRS costs and benefits. The Indian PCA was somewhat simpler, with only eight significant (loading >.500) weightings on three components; the Chinese PCA had nine significant (loading >.500) weightings on three components. In terms of component 1, Indian companies associated IFRS attractiveness to investors with transparency while down-weighting the potential of IFRS to simplify financial statements Chinese companies showed exactly the same pattern on component 1, but also suggested that IFRS required more extensive accounting experience and provided more global credibility. For Chinese companies, then, IFRS seems to satisfy a fairly broad set of requirements through a single mechanism of transparency-improving, investor-attracting, credibility-raising actions that seem to be counterweighed by the necessity for greater accounting experience and the tradeoff of more complex financial statement generation processes. Interestingly, Indian companies—like Chinese companies—agreed that IFRS was expensive and required extensive accounting experience, but these two factors weighted heavily on a different component (component 2) as compared to the Chinese PCA (in which these two variables were weighted heavily on component 1). In addition, the Indian component 2 contained a negative loading for IFRS providing global credibility. It seems possible, then, that Indian companies perceive that the greater expense and expertise required by PCA are not met with greater global credibility; nor are these actions associated with investor attractiveness or transparency. Possibly, then, Indian companies are cynical about the cost and expertise demands of IFRS, at least as compared to Chinese companies. It should be noted that Chinese companies had a negative loading (-.652) for IFRS being inexpensive, which was accompanied by a positive loading (.785) for IFRS improving management accounting. Perhaps, then, Chinese companies believe that IFRS can be rendered less expensive through the use of management accounting; the contrasting loading of these two variables in component 3 of the Chinese PCA supports some such conclusion. Finally, there is stark disagreement between the Indian and Chinese companies on the topic of IFRS providing global credibility, given that this variable as a negative loading in the Indian PCA and a positive loading in the Chinese PCA.

4. Discussion of Results

Financial information is the heart of economic life in market systems. In neoclassical economic theory, rational economic decisions can only be made on the basis of such information (Krugman & Wells, 2009). Buyers and sellers must have a fairly precise empirical basis for understanding value in order for cumulative economic activity to be efficient. Historically, some form of information regulation has always accompanied commerce (Mankiw, 2011). In contemporary times, financial information as generated by corporate entities is typically subject to some combination of internal, national, and international accounting regime, depending on variables such as where the company is listed (Norton, Diamond, & Pagach, 2006).

Accounting practices continue to vary widely and for a number of reasons. To begin with, some aspects of accounting—for example, the choice of certain methods of book-keeping—remain altogether unregulated and therefore fall to the choice of the company, even though accounting standards might provide guidance or recommendations for such practices (Pounder, 2009). Additionally, there is latitude for a wide variety of approaches even within standardized accounting regimes. For example, IFRS is a principles- rather than rules-based accounting regime, which means that IFRS allows companies some leeway in their accounting practices (Nandakumar, Mehta, & Ghosh, 2010). Even U.S. GAAP, which are rule-based and are ten times as long as IFRS, contain some leeway in that, in

Saudagaran's (2009) estimation, GAAP allows for "more aggressive accounting practices" (p. 206) that open the door for multiple approaches to compliance with the standard.

The existence of multiple accounting practices and regimes, and the presence of latitude in the world of accounting decision-making, creates many potential problems for accounting scholars and policy-makers. However, the presence of choice is also an important problem for companies, especially companies that find themselves in a position of growth. Specifically, companies in India and China have been experiencing a period of growth and capital accumulation that have created more opportunities for global mergers than existed beforehand. To date, the accounting literature has been silent on the question of how Indian and Chinese companies' IFRS adoption intentions, perceptions of IFRS costs and benefits, and mergers strategies have been linked. The following findings cast some light on these linkages:

First, Indian and Chinese companies were very similar to each other in their perceptions of individual IFRS costs and benefits. However, PCA revealed the existence of some subtle but important distinctions between how companies from these two countries perceive IFRS. In particular, although none of the Chinese companies had adopted IFRS, they seemed to believe that the integration of IFRS with management accounting could result in some form of expense reduction as well as better global credibility and mergers simplification. It remains to be seen whether this perception is wishful thinking or the core of a workable strategic approach to IFRS implementation in China. Indian companies, by contrast, appeared to be more cynical in that they believed IFRS to be expensive and complex, but unaccompanied by global credibility.

Second, there were strong distinctions between how companies that had actually adopted or were planning to adopt IFRS, versus companies that had no plans to adopt IFRS, saw IFRS costs and benefits. Companies that had adopted or were planning to adopt IFRS believed that IFRS (a) rendered the generation of financial statements more complex, (b) provided more transparency, and (c) was more attractive to investors. Non-adopters appear to have an unrealistic version about the simplicity of IFRS and an under-appreciation of IFRS's transparency and attractiveness to investors.

These findings should be of interest to scholars interested in understanding the links between Indian and Chinese companies' IFRS adoption, mergers activity, and perceptions of IFRS costs and benefits. Future research could add appreciably to these findings by conducting individual interviews to obtain more specific findings about the motivations for IFRS adoption or non-adoption among Indian and Chinese companies.

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Using Extrajudicial Accounting Surveys in Decision Making. A Case Study

Steliana Busuioceanu[1]

Abstract: An extrajudicial accounting survey can be required by the party or parties who set the objectives the chartered accountant should meet, representing an efficient highly specialized assistance tool for any business which wants to be protected from risks. The extrajudicial accounting survey has a much larger and more complex span than the judicial one, aiming at different issues: economic, patrimonial, managerial, financial, fiscal, information ones, surpassing most of the times the strict frame of financial and accounting information and services. The aim of the paper is to emphasize the deeply applicative character of the extrajuridical accounting survey in clarifying varying aspects that occur in a company's activity and that affect the decision making. The article focuses on the presentation of a sample extrajuridical accounting survey report with remarks, which, both in form and content, can become a source of inspiration both for theoretical debates and in the practical activity. In the international practice, the extrajudicial accounting surveys are used both for making important economic decisions, and for the fair information of all those who use accounting information, for certifying certain calculations or information, for rationalizing information flows etc.

Keywords: objectives; documents and certificates; financial statements; CECCAR

JEL Classification: M41; M49

1. Introduction

The chartered accountant is generally someone who is highly prepared and has special expertise in a particular field, being appointed by a state body or by stakeholders, based on his/ her profession, knowledge and experience, to offer endorsement in case of misunderstandings that would represent the subject of a case or action between two or more parties. The accounting survey is an activity conducted by a certified person for reconstituting the reality of an economic, financial or fiscal operation, based on research of accounting documents, data and information. The professional norms issued by CECCAR (Norm 35/2010) classify accounting surveys into:

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- judicial accounting surveys, which are regulated by The Code of Civil Procedure, the Code of Penal Procedure and special laws;
- extrajudicial accounting surveys, which are performed based on a contract concluded with the beneficiary who required the operation.

The extrajudicial accounting survey can be required by: managers, partners, banks and assurance bodies, individual persons, parties in dispute. Thus, the extrajudicial accounting surveys are meant for:

- grounding managers' decision making by presenting different aspects of the management, evolution, problems or weaknesses in the company activity;
- preventing commercial or business relationships with partners that face difficult situations, which could trigger the cessation of payment or the bankruptcy;
- avoiding juridical procedures when, given a conflict of interest, two economic agents want to settle their accounts without appealing to justice, and resort to the direct reconciliation or to the arbitration of someone impartial, i.e. the chartered accountant;
- as a means to ground and ensure the quality, truthfulness, exactness and lawfulness of the information which underlie the arbitration-judiciary action required by the management of the economic agent initiating the judicial action;
- contributing to the prevention of damages in the patrimony, the preservation of its integrity and the compliance with the law;
- underlying dispute actions for administrative control acts, especially the fiscal one, as they can be required by both tax payers and fiscal authorities.

2. Conducting the Extrajudicial Accounting Survey

The accounting survey, whether it enters the scope of judicial procedures or not, has a strong practical character, representing the activity a professional performs so as to clarify accounting issues which were requested during each mission.

The appointment of chartered accountants for conducting the extrajudicial accounting survey is done based on a contract concluded between the parties. The contract has to comprise the following minimal clauses:

- the objectives (questions) for which professional answers need to be formulated;
- the date and place for filing the extrajudicial accounting survey report;

- the fee for the chartered accountant or for the survey office, calculated based on the professional fees.

The professional standard no. 35 “Accounting surveys” issued by The Body of Certified and Chartered Accountants in Romania, CECCAR, comprises the provisions for work and professional conduct practices, but also the structure of the Extrajudicial accounting survey report, which is the following:

Chapter I: Introduction

Chapter II: Performance of the accounting survey

Chapter III: Conclusions

Each of these chapters comprises distinct paragraphs with reference to the identification of the involved parties, the circumstances in which the survey was contracted, but also the operations conducted by the chartered accountant to reach the objectives envisaged. The conclusions drawn have to be presented in a structured, concise and clear form.

3. Case Study: Extrajudicial Accounting Survey Report No. 9/ 16.04.2013

3.1. Chapter 1: Introduction

SC Contexpert Romania SRL, represented by chartered accountant Ec. Marinescu Ovidiu, Ph.D., as contracting party, was designated by SC Carpatia Construct SRL, registered at ORC under no. J08/256/2004, fiscal code RO 21546878, represented by Michael Braun, as General Manager, to conduct an extrajudicial accounting survey with the objectives to be mentioned, within SC Carpatia Construct SRL, for the fiscal year 2012. For the edification as regards the accuracy and truthfulness of the accounts in the financial statements of the company and other issues related to the lawfulness of the accounting entries in the fiscal year 2012, an accounting survey was required having the following objectives:

- to establish which is the financial and accounting situation of the company SC CARPATIA CONSTRUCT SRL as at 31.12.2012;
- to find the economic effects produced by concluding commercial contracts with third parties or by other economic operations;
- to establish how receipts and payments evolved in the fiscal year 2012;
- to establish if the profit (loss) obtained by the company in the fiscal year 2012 was correctly set and registered in accounting.

The documents which underlay the drawing up of the accounting survey required were the following:

- the portfolio with the primary documents of the company, for the period 01.01.2012 – 31.12.2012;
- the fiscal audit report for checking VAT no. 2583/31.01.2013;
- Law no. 571/2003 regarding the Fiscal Code and the Methodological application rules approved with subsequent changes, OMFP 3055/2009 with subsequent changes;
- sales records – acquisitions, ledger, trial balances, fixed assets balance, financial statements corresponding to the period analysed;
- other legal documents and certificates received from the company.

The accounting survey was conducted in the period 19.03.2013 – 14.04.2013, at the accounting and survey office of the contracting party. The deadline for finishing the accounting survey report was set for 30 days after the documents have been handed over. We emphasize that the documents were handed over in several stages, the first one taking place on 19.03.2013 and the last one on 03.04.2013. In order to collect the necessary data and study the aforementioned documents, the contracting party visited the company's headquarters in order to get in touch with the company activity and documents; afterwards, these documents were brought to the contracting party's office, where the entire accounting survey was performed.

3.2. Chapter 2: Conducting the Accounting Survey

Data on the party which requests the accounting survey:

Name: SC Carpatia Construct SRL

Form of business organization: Limited Liability Company

Core activity: "Producing metal-wire items, cod CAEN 2873"

Registration no. ORC: J08/256/2004

C.U.I.: RO 21546878/13.09.2004

Statutory office: Braşov, str. Zizinului nr.221.

The single associate of the company is SWG SAS, French legal person.

The social capital is 200 lei.

The company is administered by Perronin Pablo.

Objective 1: *To establish which the financial and accounting situation of the company SC Carpatia Construct SRL is as at 31.12.2012*

In order to accomplish this objective, we analysed the centralized statements or the annual accounts of the company, i.e. the balance sheet. This one provides information on the return rates, the capital structure, the company liquidity, solvancy and flexibility.

The profit and loss account, in line with the national accounting regulations applied for large, small and medium companies has a list form and presents operating expenses according to their economic nature. Given that, by its nature, the annually calculated profit is measured retrospectively, it is characterised, to a certain extent, by imprecision, risk and even arbitration. The profit and loss account is the financial statement which gives an overview of the ordinary and additional causes of the inventory, during the fiscal year. This is correctly devised and reveals a total loss incurred by the company of 3.486.218 lei. In the structure, the result materialized in loss is the following:

- Operating loss = 552.248 lei;
- Financial loss = 2.933.970 lei.

As regards the operating activity, as the company ended the fiscal year 2012 at a loss, a series of indicators, such as the gross sales margin, the financial return rate, the return on costs and sales cannot be established. This emphasizes the fact that the company is not able to control the production cost or to obtain the optimum sales price. The calculation method used is per product. Since only the post-calculation is performed, we can have a detailed view on the expenditure structure as absolute measure only subsequently, i.e. after the production has been finished and the products checked or even sold, which brings about sales under the production cost. As a rule, the company produces two great categories of products: welded nets and metal works.

Working under the auspices of SWG, it purchases imported base raw material, i.e. wire, which involves quite high costs as compared to the same raw material bought on the Romanian market, but which would be of a lower quality. If, considering the experience in 2012, a pre-calculation were done, the sales price could be more accurately estimated based on costs, and the under-cost sale could be prevented.

Our opinion is that a more thorough analysis should be performed as regards the expenditure corresponding to the product, against the expenditure of the period, which includes administrative and distribution costs, having quite a significant weight in the overall operating costs. Furthermore, we found a high level of the expenditure connected to staff training, as well as to entertaining. It should be mentioned that these ones are limited to a percentage of 2%, in compliance with the laws in effect, and, in the case under consideration, operating at a loss, they are fiscally non-deductible.

As regards the financial activity, it generates quite a complex structure of expenditure with interests and differences in the exchange rates, which come from the relationships with suppliers and customers, the receipts and payments in a foreign currency, bank loans, as well as from leasing. But all these are fiscally deductible. A special place is held by the crediting within the group, which brings about most of the company losses both by the contractual interest set (6%), and by the differences in the exchange rates following the re-evaluation:

- Group credit interests = 189.452 lei;
- Differences in the currency exchange rate for group credits = 1.873.606 lei.

It is worth mentioning that these expenses are fiscally deductible and, when paying the interests, the company has to pay the tax for the income obtained by non-residents, in compliance with the law in force. All the other components of the balance sheet, the annotations, respectively, were correctly and completely drawn up.

Objective no. 2: *To establish the economic effects produced by the conclusion of commercial contracts with third parties or by other economic operations.* In order to reach this objective, the documents and legislative acts mentioned in the previous chapter were studied. SC Carpatia Construct SRL is a limited liability company, being part of the group of European firms SWG and having SWG SAS from France as sole trader. As shown in the annotations to the balance sheet, the greatest weight in the total debts is held by the debts towards the group companies. Given that the company has a social capital of 200 lei, it uses the following funding sources in order to operate:

a) Three crediting contracts from the group SWG, amounting to: 3.540.000 euros. All these contracts have a 6% interest, for which the invoice requiring the interest has already been issued;
b) Bank loans, a BCR credit of 1.784.527 euros, respectively, based on contract no. 60162/18.10.2010. This credit is meant for investments, more specifically for reparation works in the production warehouses and for cranes, works which are necessary for the operation of the production line;
c) Partners' contribution, SWG respectively, based on credit sale agreement, by which advance money was sent in the current account for funding-development free of interest, amounting to 2.600.000 euros.

These funding sources trigger very significant losses for the company, by a two-fold effect:

- the first effect is triggered by the differences in the unfavourable currency exchange rates, given that they are extremely fluctuating and uncertain;

- a second effect is brought by the interests which accompany these foreign funding sources.

In addition, in the total debts payable to suppliers, amounting to 8.031.852 lei as registered on 31.12.2012, 86% is held by the debts towards the companies within the group, i.e. 6.891.765 lei.

As per 2000, the Romanian fiscal legislation includes stipulations as regards transfer pricing mechanisms between the affiliated parties. Fiscal authorities have the right to check the transactions between the affiliated parties and the mechanisms for price setting, being entitled to require the taxation for a value they consider right. In general, the result of such a checkout is hard to be foreseen.

Objective no. 3: *To establish how the receipts and payments evolved in the fiscal year 2012*

In order to accomplish this objective, the debts of the company towards its suppliers were analyzed, as well as the receivables in the relationship with customers. The main suppliers are:

- **internal suppliers:**

SC Rastef SRL Braşov: RO 3051726, str. Barbu Necula nr. 678 – Prejmer

SC Voltshop SRL Brasov: RO 7283630, str. Scarii nr.8 – Braşov

SC Industrial Prest SRL: RO 12002501, str. Vidin nr.2-10 – Aiud

- **external suppliers:**

SWG Metal Industries France: FR 45612354684, 3 Rute de Bettwiller – Drulingen

SWG Construction Sas France: FR 10136156475, 3 Rute de Bettwiller – Drulingen

According to the trial balance concluded on the 31st of December 2012, the company has a credit balance of 4.768.195 lei in the account 401 “Suppliers”, and a credit balance of 1.617.422, 32 in the account 404 “Suppliers of non current assets”; the situation of suppliers is attached as at 31.12.2012.

The main customers are:

- **internal customers:**

SC Tran Metal SRL Brasov: RO 12456677, str. N.Matei nr.32 - Braşov

SC Teramet SRL Prahova: RO 7512564, str. Patriei, nr. 16-18 - Prahova

SC Remat SA Braşov: RO 4511245, str. Cristian Vindici, nr.24 - Braşov

- **external customers:**

SWG Metal Industries France: FR 45612354684, 3 Rute de Bettwiller - Drulingen

SWG Construction Sas France: FR 10136156475, 3 Rute de Bettwiller – Drulingen

Trefileries Haulte Foret Luxemburg: LU 953246273, 51 Rute de Wasserbilling - Mertert

According to the trial balance concluded on the 31st of December 2012, the company has a debit balance of 4.282.022,67 in the account 411 "Customers"; the situation of customers is attached as at 31.12.2012

In order to give a more comprehensive view, the corresponding table and graph were devised for the evolution of sales as compared with receipts by month for the year 2012, which can be found in the report appendices (Fig.1).

Objective no. 4: *To establish if the profit (loss) obtained by the company in the fiscal year 2012 was correctly set and registered in the accounts.*

The costs and revenues of the company were correctly registered and in due time. The principle of the independence of the fiscal year was complied with, and, as a consequence, a scheduling was drawn up for accrued expenses and deferred income, based on precisely devised terms of payment. The company pays its taxes in due time and does not have overdue payments. The company has rightly devised statement 101 regarding the way income tax is calculated and has filed it within the statutory period. The appendices for the survey report include an evolution of the expenses and revenues by month within the fiscal year 2012, both in table and graphic form. (Fig.2)

3.3. Chapter 3: Conclusions

The accounting policies and methods used have been thoroughly checked, just like the way the accounting and fiscal legislation in effect has been complied with, based on primary documents and master tables checked and analysed randomly. For the objectives set we formulate the following answer:

Objective no. 1: *To establish which is the financial and accounting situation of the company SC CARPATIA CONSTRUCT SRL as at 31.12.2012*

The profit and loss account is correctly devised and reveals a total loss of 3.486.218 lei incurred by the company. In the structure, the result materialized in loss is the following:

- Operating loss = 552.248 lei;
- Financial loss = 2.933.970 lei.

Objective no. 2: *To establish the economic effects produced by concluding commercial contracts with third parties, or other economic operations.*

Given that the company has a social capital of 200 lei, it also uses other funding sources to operate, respectively crediting from the group, bank credits and contributions from partners. These funding sources for the company trigger significant losses, both due to the interests and to the differences in the currency exchange rates they generate.

Objective no. 3: *To establish how the receipts and payments evolved in the fiscal year 2012*

In order to offer a more relevant overview, the corresponding table and graph were devised, with reference to the evolution of sales as compared to receipts by month for the year 2012, which can be found in the appendices of the report (Fig.1).

Objective no. 4: *To establish if the profit (loss) obtained by the company in the fiscal year 2012 was correctly established and registered in accounting.*

The company expenses and revenues were correctly registered and in due time. The company correctly drew up statement 101 regarding the way profit tax is calculated and filed it within the statutory period.

3.4. Chapter 4: Personal Remarks of the Chartered Accountant

We are of the opinion that, for contracts concluded in French, it would be useful to attach a copy in Romanian, with certified translation, necessary and useful when controls are performed by the authorities in charge. From our perspective, the goods received notes, corresponding to the materials which are recorded into inventory, should comprise the name of the administrator and of the person/ persons who sign for the reception commission.

In addition, for the entry and reception of fixed assets, we consider that, in compliance with the legislation in force, the form which should be used is not the same as that for materials (NIR), but a standard form stipulated in the catalogue of standard forms for the reception of fixed assets.

The calculations of production costs are correctly devised and they are based on the reports provided by production. We do not know to what extent the norms are used or are necessary for the consumption of raw materials specific to the activity.

It was found that, for certain periods of time, generally a few months, the balance of certain accounts remains the same, for instance: account 351 “Raw materials and consumables at third parties” has the same balance as at 31.12.2011 and 31.05.2012, i.e. it registers a value of 8.045 lei.

Furthermore, the supplier SWG SAS was found to have both a credit balance at position 404 “Suppliers of non current assets”, but also a debit balance at position

4091 “Advance payments to suppliers for the purchase of inventories”, which could be compensated.

Account 408 “Suppliers – invoices to be received” presents credit balances for longer periods of time, for the entire year 2012, respectively.

It results that, for the aforementioned accounts, but also for those representing 411 “Customers” and 419 “Advance payments from customers”, it would be advisable to perform a more thorough analysis, at least every trimester, with a view to regulating unchanged balances, making the necessary compensations or clearing away anomalies.

Rental invoices only include the remark “equivalent value for rental services”, without clearly specifying what kind of rentals they refer to (premises, machinery etc.).

We consider we fostered most of the significant elements, detailing them in the punctual answers given to the objectives established; it is worth mentioning that no major deficiencies were found in the entries and book-keeping for the operations reflected in the primary documents.

BRAŞOV Chartered accountant,

16.04.2013 Ec. MARINESCU OVIDIU, Ph.D.

4. Conclusions

The Accounting Survey Report which encompasses in its structure only the first three chapters is an ordinary accounting survey, which cannot include alternative conclusions for the objectives established. If the chartered accountant considers it necessary to express his/ her opinion over the objectives surveyed or regarding other issues that may be of interest for the beneficiary of the survey, he/ she can do this in a separate chapter, chapter IV, entitled, “Personal remarks of the chartered accountant”. The Accounting Survey Report, which comprises “The personal remarks of the chartered accountant”, is considered as “Accounting Survey Report with remarks”.

The Appendices for the Accounting Survey Report are an integral part of the report.

Appendices

Table 1. Evolution of Sales as Compared to Corresponding Receipts for the Year 2012

MONTH	SALES LEI	RECEIPTS LEI	PERCENTAGE
JANUARY	77.390	99.317	128 %
FEBRUAY	382.053	403.311	106 %
MARCH	282.064	48.709	17 %
APRIL	318.023	152.899	48 %
MAY	620.116	462.931	75 %
JUN	1.450.552	472.452	33 %
JULY	1.598.767	1.141.852	71 %
AUGUST	2.025.404	1.143.305	56 %
SEPTEMBER	1.143.498	386.299	34 %
OCTOBER	1.397.244	1.425.993	102 %
NOVEMBER	1.475.057	1.022.857	69 %
DECEMBER	1.465.153	1.076.773	73 %
TOTAL	12235321	783669	

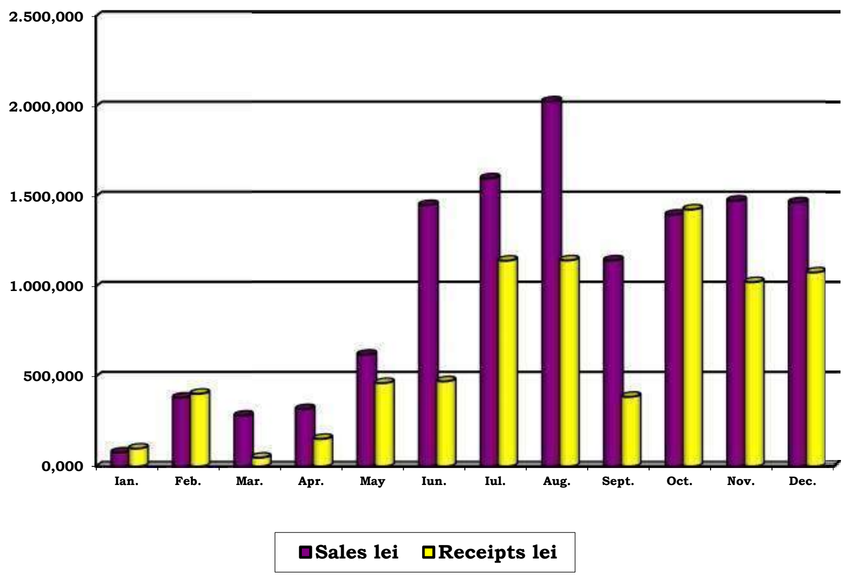

Figure 1. Evolution of Sales as Compared to Corresponding Receipts for the Year 2012

Table 2. Evolution of Expenses and Revenues for the Year 2012

MONTH	EXPENSES	REVENUES	PROFIT
JANUARY	167.209	49.925	-117.284
FEBRUARY	218.762	99.693	-119.069
MARCH	796.781	663.685	-133.096
APRIL	503.887	403.336	-100.551
MAY	1.161.108	945.123	-215.985
IUNE	1.596.557	2.663.661	+1.067.104
Total Jan.-June	4.444.304	4.825.423	+381.119
IULY	2.098.639	2.005.992	-92.647
AUGUST	2.103.484	1.909.626	-193.858
SEPTEMBER	4.465.600	4.285.311	-180.289
OCTOBER	1.805.061	1.602.928	-202.133
NOVEMBER	2.077.896	2.011.632	-66.264
DECEMBER	3.993.445	861.299	-3.132.146
Total July-Dec.	16.544.125	12.676.780	-3.867.377
TOTAL YEAR 2012	20.988.429	17.502.211	-3.486.218

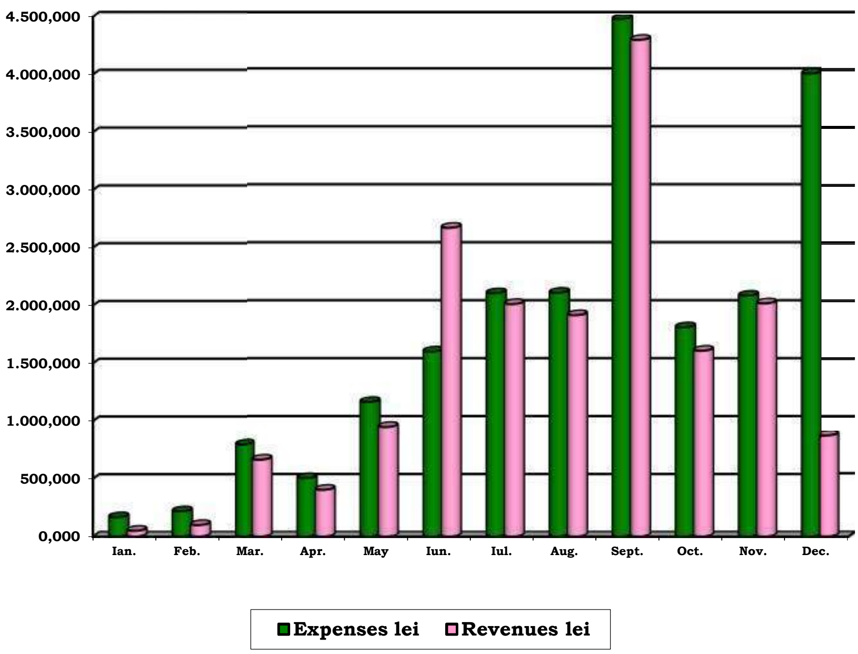

Figure 2. Evolution of Expenses and Revenues for the Year 2012

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Macroeconomics and Monetary Economics

The Impact of Real Exchange Rate on Economic Growth in Albania

Edmira Cakrani[1]

Abstract: Real exchange rate is one of the most important economic variables, especially in today's conditions of integration processes, the removal of trade barriers and increasing direct competition between countries. Real exchange rate affects economy, through its impact on key economic variables, such as employment, inflation and especially economic growth. Changes in the real exchange rate affect the competitiveness of domestic products, resulting in increased exports or imports, affecting trade balance e growth. Also changes in the real exchange rate affect investment and capital accumulation, which are directly linked with economic growth. The aim of this paper is to study the possible impact of the real exchange rate on economic growth in Albania, to answer the question whether the real exchange rate can be used as an instrument of policy. Johansen cointegration method and Vector Error Correction Model is used in this paper to identify the long-term and short-term impact of real exchange rate on economic growth in Albania. Results of the study indicate that the real exchange rate has no significant impact on the Albanian economy, suggesting that policies to promote economic growth, both in the short and long term should not rely on this variable.

Keywords: Johansen cointegration; Vector Error Correction Model; long-term impact; short-term impact

JEL Classification: F31; F41; F43

1. Introduction

The real exchange rate RER is now seen by economists as a policy instrument for promoting economic growth of a country. However, the transmission channels of RER impact on economic growth are still the subject of debate between them. Some economists highlight the effect of real exchange rate on the improvement of trade balance, while others emphasize the effect on investment.

The real exchange rate is considered as a key indicator of the competitiveness of a country's products. If RER is undervaluated, domestic products are relatively less expensive than foreign products, and this can lead to displaced demand, domestic as well as foreign, to relatively free domestic products. This will result in higher

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exports and lower imports, the trade balance will improve and domestic economy will grow.

Likewise, changes in the real exchange rate affect investment decisions by firms. If RER is undervaluated, increasing the demand for domestic products will boost investments in responding to increased demand. Domestic firms as well as those involved in international trade will increase their level of investment, especially if the undervaluation of currency continues. Increased investment and capital accumulation are considered as "the engine of economic growth"(Razin dhe Collins, 1997).

The aim of this paper is to study the potential impact of real exchange rate on the Albanian economy. Since the euro area constitutes the main trade partner of Albania, the real exchange rate will be constructed as an index against the euro. The data are obtained from Bank of Albania, Eurostat, Ministry of Finance, Albania. The data have quarterly frequency for the period 2002Q1-2011Q4.

2. Literature Review

Numerous studies have been done to identify the possible impact of the real exchange rate on growth.

Razin and Collins (1997) studied the relationship between economic growth and real exchange rate, considering investments and tradable products sector as channels through which the RER deviation may affect economic growth. They came to the conclusion that only a very high overvaluation seems to be associated with slower economic growth, while moderate to high (but not too high) undervaluation of real exchange rate appears to stimulate economic growth.

Rodrik (2003) focused on the importance of a competitive RER in the development process. He suggested that a successful strategy of growth can be developed based on two factors: first, needed an ignition factor, able to stimulate economic growth in the short term, as a necessary condition. The second factor is the creation of institutions and implements policies able to support sustainable growth in the long run. These policies should be country specific, depending on the situation and the particular context of each country. He suggested continuous undervaluation of RER, as an ignition factor.

MacDonald (2000) suggested that if the RER is sufficiently competitive to encourage entrepreneurs to sell in the international market, then firms will increase investment and hire local labor force and the economy will grow.

Eichengreen (2008) suggested that the real exchange rate can not support the growth by itself, but RER can serve as sourcing circumstances: an appropriate real exchange rate policy can be mitigating condition for a country seeking to increase the level of capital as opportunity for growth.

In their research Aguirre and Calderon (2005) analyzed the misalignment of RER and growth effect of misalignment for 60 countries over the period 1965-2003. They found that the deviations from equilibrium hinder economic growth, but the effect is non-linear: growth declines are larger, the larger the size of the misalignments. Although large undervaluations hurt growth, small to moderate undervaluations enhance growth. They suggested that growth is hampered by highly volatile RER misalignments.

3. Model Specification

In this paper, real income per capita is used as an indicator of economic growth and it is considered as a function of real exchange rate, investments, government spending and trade openness.

- **Real effective exchange rate RER** is calculated as weighted geometric average of the price index of major partner countries in Eurozone (Germany, Italy and Greece) compared to domestic prices;

$$\text{RER} = E\frac{P^*}{P} = \prod_{i=1}^{I}\left[S_i\frac{P_i^*}{P}\right]^{w^i}$$

where S_i is the nominal exchange rate between euro and Albanian lek, P_i^* is the price level of the i^{th} country and W_i is the weight corresponding to the i^{th} trade partner.

- **Investments INV** (as % of GDP): the increase of investments will increase the production capacity and the level of income; hence expected to have a positive impact of investments on economic growth;
- **Government spending GOV** (as % of GDP): is expected to have a positive impact on economic growth;
- **Trade openness OPEN**: the effect of trade openness on economic growth is not so clear. An increase in trade openness is supposed to have a positive impact on economic growth, because it enables countries to build their competitive advantages. But, empirical studies have provided different results from those expected for this variable. Devarajan and Rodrik (1989) showed that higher trade openness can result in increased well-being or its reduction in the presence of imperfect competition. Dollar dhe Kraay(2003) suggested that institutional arrangements (policies and governance), market institutions (bureaucracy and competition) and social norms determine the extent to which trade openness affects higher income and economic growth. Rassekh(2004) suggested that the effect of trade openness on economic growth can be positive or negative.

All the variables will be introduced in the model in logarithmic form. Given the expected impact of each variable on the level of real income per capita, the relationship equation is:

+ + +/- +/-

Ln GDP/c = f(lnINV, lnGOV, lnRER, lnOPEN)

4. Econometric Estimation

Cointegration method is used to explain the possibility of long-term relationship between real income per capita and explanatory variables. Time series data are tested to see if they are covariance stationary (i.e. no trend) or are trend stationary. This is done through Augmented Dickey-Fuller test (ADF). The results of test are summarized in the following table.

Table 1. ADF Test Results

Variables	ADF Test	p-value	Result
D(lnGDP/c)	-32.98035	0.0001	I(I)
D(lnINV,2)	-7.235119	0.0000	I(II)
D(lnGOV)	-15.77075	0.0000	I(I)
D(lnOPEN)	-9.615325	0.0000	I(I)
lnRER	-6.059682	0.0000	I(0)

ADF test results show that real income per capita GDP/c, government spending GOV and trade openness OPEN become stationary after the first differentiation, while real exchange rate is level stationary. Investments become stationary after the second differentiation. For this reason, this variable cannot be included in further analysis.

Johansen method is applied on the data to verify the long-term relationship between economic growth and the explanatory variables. The analysis resulted in one cointegration vector in the trace test and the maximum eigenvalue test. This suggested that the variables included in the model move together in the long run, or have a long-term relationship between them. The results of Johansen method are presented in the following table.

Table 2. The Johansen Cointegration Test Results

Series: LN_GDPR_CAP LNGOV LNOPEN LNREER
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.583017	61.45707	47.85613	0.0016
At most 1	0.365568	28.21813	29.79707	0.0752
At most 2	0.235150	10.92715	15.49471	0.2160
At most 3	0.019292	0.740254	3.841466	0.3896

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.583017	33.23894	27.58434	0.0084
At most 1	0.365568	17.29098	21.13162	0.1587
At most 2	0.235150	10.18689	14.26460	0.1999
At most 3	0.019292	0.740254	3.841466	0.3896

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Since in the long run variables move together, then VEC model is applied to identify whether there is causality of explanatory variables on real income per capita. The long-run relationship equation resulted:

Ln GDP/c = 3.99 - 0.08 lnGov - 0.79 lnOPEN + 0.52 lnREER

The error correction term α = -0.08, so is negative and statistically important (p-value =0.047). This indicates that the equation of relationship is statistically important. The high value of adjustment R^2 = 0.76, (p-value F statistic = 0.0000) suggest that only 24% of the variation in real income per capita is not explained by the variables included in the model.

Diagnostic checks show that residuals are normally distributed, not serially correlated and homoscedastic. The results of the tests are summarized on the following table.

Table 3. Diagnostic Checks Results

Test	Test result	p-value
Jarque-Bera	2.8626470	0.238992
Breusch-Godfrey LM Test	0.178652	0.6810
Breusch-Pagan-Godfrey	10.28374	0.7514

The relationship equation suggest that only trade openness has relatively significant impact on the level of real income per capita in Albania: 1% increase in trade openness reduces the level of income per capita with 0.79%. The variable of government spending has wrong sign and very low coefficient, so the impact of this variable on economic growth would be considered insignificant.

Regarding the impact of real exchange rate on economic growth in Albania, the results show that variable RER has a sign in accordance with empirical studies. Positive sign indicates that an increase in the value of the RER will be accompanied by an increase in the level of income per capita. However, the RER coefficient value of 0.52 indicates that the impact is very small: 1% real undervaluation will be accompanied by an increase in the level of real income per capita in Albania with 0.52%.

Wald test analysis the short term coefficients of VECM. The results are summarized in the following table:

Table 4. Short-run Coefficients

Variables	Coefficients	Standard deviation	p-value
D(lnREER(-1))	-0.015687	0.022965	0.5014
D(lnREER(-2))	0.014205	0.019362	0.4706
D(lnREER(-3))	0.000254	0.016817	0.9881

From the Wald test is noticed that in all the cases the p-value > 5%. This suggests that short term coefficients are not statistically significant: real exchange rate has no effect on the level of real income per capita in Albania in short term.

5. Conclusions

In this paper, the potential impact of the real exchange rate of economic growth in Albania was studied. Because Albania's main trade partner is the Eurozone, then the real exchange rate index was constructed against the euro. Trade openness, government spending and investments were included in the model as other explanatory variables. First, all the variables were tested for stationary through ADF test. The results of ADF test showed that investments became stationary after second differentiation and for this reason this variable was excluded from the model. The Johansen test of cointegration showed that there is one vector of cointegration in trace test and maximum eigenvalue test. VEC model enabled simultaneous identification of long-term and short-term coefficients. In the long term only trade openness seems to significantly affect economic growth in Albania, while the real exchange rate has a very small coefficient, suggesting an insignificant impact of real exchange rate on economic growth in Albania in long term. Also, short-term coefficients resulted statistically insignificant.

In conclusion it can be suggested that the real exchange rate has no significant impact on economic growth in Albania. This means that real exchange rates should not be used as a policy instrument for promoting economic growth in Albania.

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The Kalman Filter Approach for Estimating the Natural Unemployment Rate in Romania

Mihaela Simionescu[1]

Abstract: The aim of this research is to determine the monthly natural rate of unemployment during the third quarter of 2013 in Romania. The Phillips curve approach is not valid for the Romanian economy, but Kalman filter is a suitable approach for computing the natural rate of unemployment. We make the assumption that the cyclical component follows a random walk. Predictions were made for the unemployment rate in Romania using Kalman approach during July-September 2013 and on this horizon an insignificant decrease was observed from a month to another. A value of 5.85% is expected for unemployment rate in Romania in September 2013.

Keywords: Kalman filter; natural rate of unemployment; forecasts; random walk

JEL Classification: E21; E27; C51; C53

1. Introduction

This Kalman approach is usually applied in determining the natural unemployment rate, the value for each we have a reasonable level or a stability of inflation rate and wages. The Phillips curve used to describe the relationship between inflation and unemployment rate is not checked in Romania, but the state space models are valid.

The objective of this research is to determine the monthly natural unemployment rate in Romania and to make predictions using Kalman filter. There are not relevant studies till now for the Romanian economy.

The organisation of this research is clear: after a brief literature presentation of the quantitative methods used in predicting unemployment rate, we explained the used methodology. One-step-ahead predictions are made for unemployment rate in Romania during the third quarter of 2013 using Kalman filter.

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2 Recent Results in Literature

A complete study related to the Measurement of the natural rates, gaps, and deviation cycles is provided by Murasawa (2013). Claar (2005) estimated the natural rate of unemployment using the Kalman filter for the civilian unemployment rate in USA during 1977-2002. The author also studies the relationship between the natural rate of unemployment and other macroeconomic variables of the labour market. Moreover, Groenewold and Hagger (2002) pointed out before that the natural rate of unemployment is model dependent. Garlach-Kristen (2004) estimated the natural unemployment rate assuming that it follows a random walk, being a determinant of Beveridge curve. Valletta (2006) used the same approach of Beveridge curve, but utilizing regional data. Basistha and Startz (2008) reduced the uncertainty that affects the NAIRU natural rate of unemployment by using multiple indicators.

King and Morley (2003) estimated the natural rate of unemployment without the utilization of the Phillips curve, considering that the natural rate that varies in time is endogenous. Schreiber (2011) estimated the natural rate of unemployment for euro countries by using the integrated systems. Greenslade, Pierse, and Saleheen (2003) applied Kalman filter technique to England Phillips curve models for the NAIRU unemployment during 1973-2000. Meļihovs and Zasova (2009) determined the natural unemployment rate for Latvia using Phillips curve for quarterly data.

Two parallel disturbances are presented for unemployment: a permanent effect and a temporary one. The permanent component is represented by supply shocks that modify the full-employment level while the temporary effect does not modify this full-employment level of output as in the approach of King, Stock and Watson (1995), Staiger, Stock and Watson (1997) and Gordon (1998). According to Apel and Jansson (1999) the cyclical component of unemployment presents serial correlation. Proietti (2003) compared the accuracy of several predictions based on linear unobserved components models for monthly US unemployment rate, drawing the conclusion that the shocks are not persistent during the business cycle.

Camba-Mendez (2012) built conditional forecasts for unemployment rate using VAR models and Kalman filter techniques. Sermpinis, Stasinakis and Karathanasopoulos (2013) made predictions for US unemployment rate, using Neural Networks and compared the utility of Support Vector Regression (SVR) and Kalman Filter in combining these forecasts.

3. Methodology

The Kalman filter is an econometric method for predicting the endogenous variables and for adjusting the estimated parameters in forecast equations. There are two systems of equations: a system of prediction equations and a system of update equations.

The stages for applying the Kalman filter are:

1. The estimation of endogenous variables values using available prior information;
2. The adjustment of estimated parameters using adjustment equations and the computation of prediction errors.

A state space model includes two equations:

Measurement equation (the relationship between the observed and the unobserved variables): yt = Htβt + Azt + et

Transition equation (the dynamic of state (unobserved)): βt = μ + Fβt-1 + vt

yt – data series

z_t –observed explanatory variables

Ht – variable coefficients of unobserved series

βt, A, F and F' – constant coefficients

R and Q- state space parameters (matrix of covariance)

et and vt – shocks

Assumptions

et ~ iid. N(0, R)

vt ~ iid. N(0, Q)

E(et, vt) = 0

The objectives are:

1. The estimation of state space model parameters;

yt = Htβt + Azt + et

βt = μ + Fβt-1 + vt

et ~ iid. N(0, R)

vt ~ iid. N(0, Q)

2. Restoration of the unobserved state;

$yt = Ht\beta t + Azt + et$

$\beta t = \mu + F\beta t\text{-}1 + vt$

$et \sim$ iid. $N(0, R)$

$vt \sim$ iid. $N(0, Q)$

$\beta t/t\text{-}1$ – the estimation of βt latent state according to the information till t-1 moment

$\beta t/t$ – the estimation of βt state according to the information till t moment

$Pt/t\text{-}1$ - the βt covariance according to the information till t-1 moment

Pt/t C- the βt covariance according to the information till t moment

$yt/t\text{-}1$ P- the prediction of y using the information till t-1¬moment

$\eta t/t\text{-}1\neg = yt – yt/t\text{-}1$ - error prediction

$ft/t\text{-}1$ -the variance of prediction error

The Kalman filter offers an optimal estimation for βt, conditioned by the information related to the Ht state space parameters: A, μ, F, R, Q.

We suppose that μ, F, R, Q are known. The recursive Kalman filters implies 3 stages:

1. We start with the supposed values at the initial moment 0: $\beta 0/0$ si $P0/0$;

2. The prediction: the optimal prediction $y1/0$ at moment 1, using $\beta 1/0$;

3. The update: the calculation of the prediction error, using the observed value for y at moment 1.

$\eta 1/0 = y1 – y1/0$

The information included in the prediction error has data that can be recovered for redefining our assumption regarding the value that β could have

$\beta 1/1 = \beta 1/0 + Kt\ \eta 1/0$

Kt - the Kalman gain (the importance accorded to the new information).

The predicted values

$\beta t/t\text{-}1 = \mu + F\beta t\text{-}1/t\text{-}1$

$Pt/t\text{-}1 = FPt\text{-}1/t\text{-}1\neg F' + Q$

The prognosis for y and the error prediction

$\eta t/t\text{-}1 = yt – yt/t\text{-}1 = yt - zt\beta t/t\text{-}1$

ft/t-1¬ = xtPt/t-1z't + R

The update

βt/t = βt/t-1 + Kt ηt/t-1

Pt/t = Pt/t-1 – KtZtPt/t-1

Kalman gain: Kt = Pt/t-1 z't (ft/t-1)-1.

The actual observed unemployment rate is the sum of two components: the natural unemployment rate quantifying the persistent shocks from the supply side (we assume it follows a random walk) and the cyclical unemployment that refers to the shocks from the demand side which are limited as persistence (this component exhibits the serial correlation).

$u_t = u_t^{nat} + \alpha_t$

$u_t^{nat} = u_{t-1}^{nat} + \varepsilon_t$

$\alpha_t = \rho\alpha_{t-1} + \omega_t$

$\varepsilon_t \sim$ N(0;σ_ε^2)

$\omega_t \sim$ N(0; σ_ω^2)

E(ε_t, ω_t) = 0

A state space model for the natural unemployment can have the following form:

$u_t = Z\beta_t$, t=1,2,…,T (measurement equation)

Z=[1 1], $\beta_t = \begin{bmatrix} u_t^{nat} \\ \alpha_t \end{bmatrix}$

$\beta_t = T\beta_{t-1} + R\vartheta_t$ (transition equation)

T=$\begin{bmatrix} 1 & 0 \\ 0 & \rho \end{bmatrix}$, $\vartheta_t = \begin{bmatrix} \varepsilon_t \\ \omega_t \end{bmatrix}$

$\varepsilon_t \sim$ N(0;σ_ε^2)

$\omega_t \sim$ N(0; σ_ω^2)

E(ε_t, ω_t) = 0

Under these conditions the Kalman filter generates optimal predictions and updates of the state variables. The Kalman filter determines the estimator of the minimum square error of the state variables vector. There are two approaches in literature regarding the estimation of a variable using this filter. The first one assumes that the initial value of the non-stationary state variable can be fixed and unknown. On the other hand, the second approach considers that the initial value is random. The diffuse prior is specified. If we analyse the first observations, the approach is better even if it can generate numerical instability. If m is the number of state variables we utilize the approach with diffuse prior of Koopman, Shepard and Doornik (1998) and m predictions are provided. The unknown parameters that will be estimated are ε_t, ω_t and ρ. However, some authors give these parameters some reasonable values from the start. For we have to establish the value from the start and the log-likelihood function is computed. The variance of the shocks coming from the demand side (σ_ω^2) is always greater than the variance of supply shocks (σ_ε^2).

4. The Computation of Natural Unemployment Rate and of the Predicted Unemployment

In this research the data set is represented by the unemployment rate in Romania (denoted by u) registered in the period 1992: January- 2013: June. The unemployment rate is an indicator used to measure the unemployment intensity, being computed as a ratio of number of registered unemployed people and the active population. One-step-ahead predictions are made on the horizon 2013: July-2013: September. The data series are provided by the National Institute of Statistics.

The natural unemployment rate is determined for diffuse prior and different values of ρ. ρ represents the starting value of the state space model.

$\alpha_t=\rho\alpha_{t-1} + \omega_t$, where α_t is the error term of the model that explains the evolution of the unemployment rate using the natural unemployment rate

$$u_t = u_t^{nat} + \alpha_t$$

The estimations based on Kalman filter are made in EViews:

@ signal ur= sv1+ sv2

@ state sv1= sv1(-1) + [var=exp(c(2))]

@ state sv2= c(4)* sv2(-1) + [var=exp(c(3))]

The state space models for different values of starting value of ρ are presented in **Appendix 1**. The proposed models in literature are also valid for Romania.

Table 1. The Natural Unemployment rate for Different Values of Starting Values (July 2013-September 2013)

Month	Unemployment rate (%) (dynamic forecasts)					
	$\rho=1$	$\rho=0.9$	$\rho=0.8$	$\rho=0.7$	$\rho=0.5$	$\rho=0.3$
July 2013	5.52	5.516	5.516	5.517	5.5177	5.518
August 2013	5.517	5.515	5.515	5.515	5.518	5.517
September 2013	5.518	5.515	5.516	5.5166	5.517	5.517

Dynamic forecasts are made for different values of ρ (July 2013-September 2013). These values include not only the natural unemployment rate, but also the cyclical component. For July 2013 the Kalman filter approach predicts a rate of 5.88% for the unemployment rate, followed by an insignificant decrease till 5.87% in August 2013 and 5.85% in September 2013.

Table 2. Dynamic Forecasts of the Unemployment Rate for Different Values of Starting Values ρ (July 2013-September 2013)

Month	Unemployment rate (%) (dynamic forecasts)					
	$\rho=1$	$\rho=0.9$	$\rho=0.8$	$\rho=0.7$	$\rho=0.5$	$\rho=0.3$
July 2013	5.8862	5.8862	5.88621	5.886239	5.886226	5.886235
August 2013	5.87249	5.87253	5.87246	5.87251	5.87248	5.87250
September 2013	5.85878	5.85885	5.85874	5.85881	5.85877	5.85880

The differences between the forecasts corresponding to a certain month are insignificant. The increase in the value of ρ does not imply necessary an increase in the value of the unemployment rate. For July 2013, the most accurate unemployment rate forecast was registered for the case of ρ =0.5 (with an absolute error of 0.59622 percentage points).

The one-step-ahead forecasts based on Kalman filter and the actual values of unemployment rate are represented in the following graph.

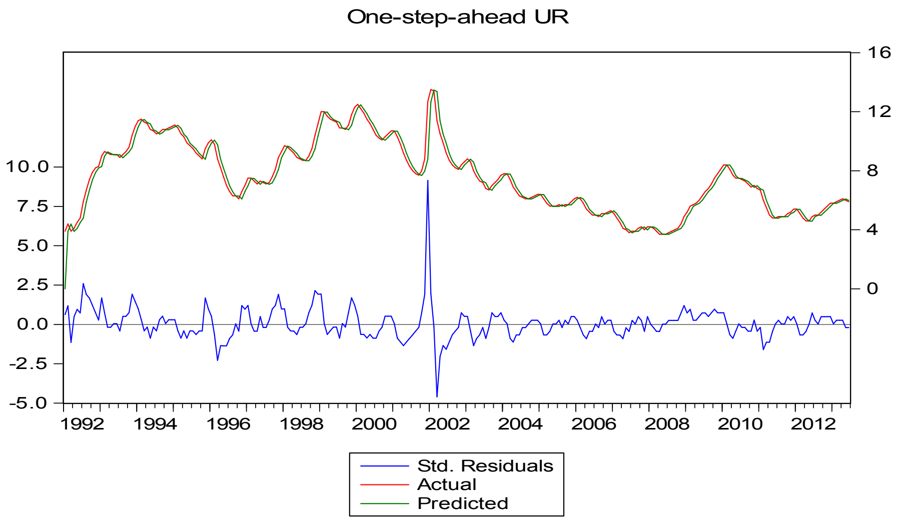

Figure 1. The Actual and Predicted Values of Monthly Unemployment rate in Romania (1992: January- June: 2013)

As we can observe, the differences between the actual values and the predicted ones are low. In 2002 the greatest unemployment rates were registered.

5. Conclusions

An important conclusion is that the classical state space model used in literature to determine the natural unemployment rate provided expected results for the Romanian economy. A very slow decrease in the monthly unemployment rate is observed during the third quarter of 2013 when Kalman approach is used. A value of 5.85% is predicted for September 2013.

This research provides pertinent results regarding the prediction of unemployment rate in Romania, but the study could be improved by assessing the forecasts accuracy and making the comparison with other predictive quantitative techniques.

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APPENDIX 1

ρ =1

Sspace: SS01
Method: Maximum likelihood (Marquardt)

Included observations: 258
Convergence achieved after 1 iteration

	Coefficient	Std. Error	z-Statistic	Prob.
C(1)	-1.694572	0.025524	-66.39032	0.0000
C(2)	0.997666	0.003013	331.1242	0.0000
	Final State	Root MSE	z-Statistic	Prob.
SV1	5.886231	0.428577	13.73437	0.0000
Log likelihood	-150.2963	Akaike info criterion		1.180591
Parameters	2	Schwarz criterion		1.208134
Diffuse priors	0	Hannan-Quinn criter.		1.191666

Unknown ρ

Sspace: SS01
Method: Maximum likelihood (Marquardt)

Included observations: 258
Convergence achieved after 15 iterations

	Coefficient	Std. Error	z-Statistic	Prob.
C(1)	-1.695059	0.025506	-66.45642	0.0000
C(2)	0.997660	0.003009	331.5723	0.0000
	Final State	Root MSE	z-Statistic	Prob.
SV1	5.886193	0.428472	13.73763	0.0000
Log likelihood	-150.2964	Akaike info criterion		1.180592
Parameters	2	Schwarz criterion		1.208134
Diffuse priors	0	Hannan-Quinn criter.		1.191667

ρ =0.9

Sspace: SS01
Method: Maximum likelihood (Marquardt)

Included observations: 258
Convergence achieved after 1 iteration

	Coefficient	Std. Error	z-Statistic	Prob.
C(1)	-1.694995	0.025518	-66.42405	0.0000
C(2)	0.997670	0.003014	330.9585	0.0000

	Final State	Root MSE	z-Statistic	Prob.
SV1	5.886252	0.428486	13.73733	0.0000
Log likelihood	-150.2964	Akaike info criterion		1.180592
Parameters	2	Schwarz criterion		1.208134
Diffuse priors	0	Hannan-Quinn criter.		1.191667

ρ =0.8

Sspace: SS01
Method: Maximum likelihood (Marquardt)

Included observations: 258
Convergence achieved after 1 iteration

	Coefficient	Std. Error	z-Statistic	Prob.
C(1)	-1.694879	0.025515	-66.42797	0.0000
C(2)	0.997664	0.003011	331.3113	0.0000

	Final State	Root MSE	z-Statistic	Prob.
SV1	5.886217	0.428511	13.73645	0.0000
Log likelihood	-150.2963	Akaike info criterion		1.180592
Parameters	2	Schwarz criterion		1.208134
Diffuse priors	0	Hannan-Quinn criter.		1.191667

ρ =0.7

Sspace: SS01
Method: Maximum likelihood (Marquardt)

Included observations: 258
Convergence achieved after 1 iteration

	Coefficient	Std. Error	z-Statistic	Prob.
C(1)	-1.694806	0.025520	-66.41028	0.0000
C(2)	0.997668	0.003014	331.0630	0.0000

	Final State	Root MSE	z-Statistic	Prob.
SV1	5.886240	0.428526	13.73600	0.0000
Log likelihood	-150.2963	Akaike info criterion		1.180592
Parameters	2	Schwarz criterion		1.208134
Diffuse priors	0	Hannan-Quinn criter.		1.191667

ρ =0.5

Sspace: SS01
Method: Maximum likelihood (Marquardt)

Included observations: 258
Convergence achieved after 1 iteration

	Coefficient	Std. Error	z-Statistic	Prob.

C(1)	-1.694716	0.025520	-66.40697	0.0000
C(2)	0.997666	0.003012	331.1881	0.0000
	Final State	Root MSE	z-Statistic	Prob.
SV1	5.886227	0.428546	13.73536	0.0000
Log likelihood	-150.2963	Akaike info criterion		1.180592
Parameters	2	Schwarz criterion		1.208134
Diffuse priors	0	Hannan-Quinn criter.		1.191666

ρ =0.3

Sspace: SS01
Method: Maximum likelihood (Marquardt)

Included observations: 258
Convergence achieved after 1 iteration

	Coefficient	Std. Error	z-Statistic	Prob.
C(1)	-1.694646	0.025523	-66.39575	0.0000
C(2)	0.997667	0.003013	331.0847	0.0000
	Final State	Root MSE	z-Statistic	Prob.
SV1	5.886236	0.428561	13.73489	0.0000
Log likelihood	-150.2963	Akaike info criterion		1.180591
Parameters	2	Schwarz criterion		1.208134
Diffuse priors	0	Hannan-Quinn criter.		1.191666

ρ =0

Sspace: SS01
Method: Maximum likelihood (Marquardt)

Included observations: 258
Convergence achieved after 1 iteration

	Coefficient	Std. Error	z-Statistic	Prob.
C(1)	-1.694508	0.025527	-66.38215	0.0000
C(2)	0.997667	0.003013	331.0771	0.0000
	Final State	Root MSE	z-Statistic	Prob.
SV1	5.886235	0.428590	13.73394	0.0000
Log likelihood	-150.2963	Akaike info criterion		1.180591
Parameters	2	Schwarz criterion		1.208134
Diffuse priors	0	Hannan-Quinn criter.		1.191666

International Economics

The Remoralization of Capitalism

Tiberiu Brăilean[1], Aurelian-Petruș Plopeanu[2]

Abstract: Nor the capitalism nor the communism prove to be the ideal systems. The second has imploded, while the first is transformed under the impact of the strong forces of globalization, crisis, technology, demography and ongoing ideas. It is looking for some kind of *mixtum compozitum*, which often prove just pure illusions. The crisis is proving to be a structural one, even a systemic one, not as cyclical as it was thought. The deepest wound of the current hyper-capitalism comes from its desecration and demoralization, reaching to some excessive consumption behaviors, speculation, virtualization, financialization, merchantability, alienation, manipulation etc. The background solution may come, in our opinion, only from a system's remoralization and re-enchantment, even though Hayek once said that the markets are amoral.

Keywords: market; state; neoliberalism; crisis; globalization

JEL Classification: F63; G01; P19

1. Introduction

Those who idealized the market believe in a sauvage illusion; those who idealized the state believe in a something more systematic illusion. However, both are extreme situations, the reality being the "holy middle way", it is about a mixed illusion. Often, an extreme liberalization leads to nationalization and vice versa. In fact, these things seem to recur in a cyclic way, a sinusoidal one. The economic agents behave like the shadows in Plato's cave, taking a closed system as a true reality. This is better seen on the financial markets, where some individuals are investing other people's money and sometimes their errors giving rise to some fortunes that have nothing to do with our idea of "reality".

If God gave all the people everything they need to live, with the only condition – not always compulsory - to work, and even George Bataille, in "The Accursed

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Share: an Essay on General Economy", considered that earth receives and generates an excess energy, economically exploited, then how is it that most people of the 21st century live in abject poverty, while the spiraling debts soared in a stunning way? Is it possible that someone stole our reality? Is it possible we did not even live in the best of all possible worlds?

2. Between Two Illusions

After he wrote his biography, The Age of Turbulence: Adventures in a New World (2008), the well-known "guru"and ex-former chairman of the Federal Reserve System, Alan Greenspan, almost wepts at the last hearing in front of Congress, stating that neither he doesn't know which one is the reality, after he pushed the world economy into virtual for almost thirty years. In the same direction, the current chairman of the Federal Reserve, Ben Bernanke, spent in 2009 hundreds of millions of dollars from taxpayer money for banks and bankrupt firms. He said "Those who doubt that there is much connection between the economy of the 1930s and the supercharged, information-age economy of the twenty-first century are invited to look at the current economic headlines - about high unemployment, failing banks, volatile financial markets, currency crises, and even deflation. The issues rose by the Depression, and its lessons, are still relevant today." (Bernanke, 2000, p. 7) If so, then we may ask too: what did economics teach about, if it is said to be a science, in the last 80 years?

The 1970s energy crises which stroke the major industrial economies around the world discredited Keynesianism which victoriously emerged after the Great Depression. The extent of deficits, the rampant inflation and a discouraging private supply were the fatal effects. The current crisis discredits the dogmatic and excessive neoliberal economic way of thinking. Whom should we believe? It requires reinventing the economics as a science, because, in the current formula, it was discredited, the economists often reproduced the oracular and sibylline speech, even when they seem to understand something of what is happening. The illusory world of markets and governments is where the fallible human beings act based on outdated theories, on some vaguely perceived trends and "information overload" (Alvin Toffler) or infobesity, in a state of "radical uncertainty" (George Soros), taking decisions that sometimes, by mistake, could be successfully. However, it is less than the forecasters do this every day.

Today, science behaves like the medieval Inquisition, very dogmatic and dull. The financial engineering and the speculative fervor brought the Western financial system in a state of collapse. Again, the Greeks are headed, but, at least, they have some islands they could sell. What science is this one that can cause such a destruction and intergenerational inequity?

The dominant positive neoclassical economics, formalized as a natural science, emerged in the late nineteenth century thanks to the efforts of a mining engineer from Cambridge, William Stanley Jevons and of a mathematician's son in search of equilibrium, Leon Walras, helped by the Italian Vilfredo Pareto, who goes beyond in search of the economic optimum. Some utopias... Little bit later, Alfred Marshall wanted to introduce the differential calculus not only in economics, but also in sociology and biology, but why not in philosophy?

But major economists like David Hume, John Stuart Mill and John Maynard Keynes were very skeptical about the scientific claims of the mathematical economics with its methods and hypothesis. The last of them considered that mathematical physics, in its application in social and economic studies, hasn't fulfilled the academic promise nor as a science or knowledge, nor as a field of study. Keynes said that in every moment we are faced with different issues related to organic unity, uniform discrete distribution, discontinuity - the whole conglomerate does not equal the sum of its containing parts, the quantitative comparisons deceive us very often and seem very catchy, the small changes produce large and important effects, the assumptions of a uniform and homogeneous continuum are not confirmed. (Skidelski, 2003, p. 460). Unfortunately, the developed and applied models by the followers of these great economists prove that they haven't been well enough understood.

Even if the basic equations of physics change from time to time, do you realize what happens to the principles of economics? In the latter case, the basic relations are highly variable and can change the long-term projections in some really great uncertainty reasoning. In the neoclassical orthodoxy, the non-numerical factors, such as the inventions, the labor strikes, the natural disasters, the information asymmetries, the currency fluctuations and the financial crises play no specific role in the scenario. Moreover, today's powerful computers have allowed the construction of some more complex models, but very rigid mechanistic ones, which claim to explain and decide all economic system, a true *deus in machina*. But the markets refuse to follow the linear curves provided in these models. Reality refuses to submit to science, so it must be changed.

3. The Hypercapitalism

The civilization to which we belong increasingly doubts itself. It seems capitalism no longer provide an ideal framework for economic growth and development. Some even proclaim an explosion from inside. Indeed, the crisis of the global capitalism we are going through is merely the opposite of the expected economic growth. And it is not only an economic crisi, but also a political, social, moral one, a deep crisis, a crisis of our fundamental values. The Western civilization has reached its limits?

This crisis is one of the hyper-capitalism raged since 1980, mainly through the financial channels and by an excessive liberalization of the world economy. A genuine cult of the market was applied throughout the human existence, excessively enriching the rich people, while the resources of the poor ones were depleted, full of hope for a hyper-consumption behaviour based on endlessly rolling financial credits of the middle class, which, in the meantime, has been thinned until extinction. The crisis from 2008 suddenly woke us up to reality and has removed our “hyper-dreams”. It just reveals the impoverishment of the middle class we were talking about, the essential pillar of any solid democracy, invited to pass once to the cashier to refinance the whole economic and financial system.

In its fall, the hyper-capitalism also involves the democracy with its values that are privatized, emptying them by all meaning. Or, if the democracy needs the capitalism, the latter doesn’t necessarily need the democracy in order to survive. And other regimes are eager to take the forefront on the world’s stage. What will happen then with the democracy? What will happen with Christianity after the loss of hegemony of the Western civilization, for the hyper-capitalism has already produced a diversion of the Christian civilization values. If we want to save the democracy, the economy, the politics, to reinvent the capitalism’s ethos, if we want to save our planet’s ecosystem just to survive today and tomorrow, we need to urgently respond to one fundamental question: what we believe in?

The hyper-capitalism is merely a diversion of the democratic capitalism, as it was constituted in the modern era, a diversion into the financial flows in detriment of the real economy and the society itself. The hyper-capitalism’s problem is not just that it is unfair, the real problem is that it is unstable. Following Schumpeter, we know that the crises are part of the history of capitalism, they are inevitable, cyclical, destructive for the short-term values, but fertile for important innovations, for new technologies developed and disseminated by the entrepreneurs which allow the exit from the crisis’ epicenter and launch a new phase of economic expansion. However, the latest crises after the 1980s have nothing to do with the so-named “creative destruction”. Considering the economy an appendix subordinated to the rule of money, forcing at any price certain and consistent financial returns, aggressing the middle class, hyper-capitalism has destroyed its own ecosystem. It's like we pull a flower to grow faster and faster, but we will end up by breaking it.

Of course, all the damages are paid by the taxpayers, ordinary people indebted for life. The bailouts in several countries will not be able to restart the complex machine. And then it is possible that many states will go bankrupt, and the world economy will enter in the Ice Age. Who will manage all these processes and phenomena? It may sound apocalyptic, but that is a true possibility that may occur some day when we all will be surprised, a real “black swan”, in terms of Nassim Nicholas Taleb. Today, everyone requires more interventionism and more governamental actions. The state is invoked and called to solve all the deep fundamental problems. But what kind of state, what kind of policy would be suitable? We need new ideas. In any case, a predatory oligarchy of public goods, a soulless state-machine will not be the right answer and panacea.

The crisis we are experiencing is not just a capitalism's crisis, but of the whole existing order. The economic system needs more than a reform of its financial system. The crisis requires us refounding the whole ecosystem of our civilization. It brings to the forefront important anthropological, moral, political and institutional issues: What is a man? On what ethical basis do we fund our relationships with each other? What is a common good? What institutions could guarantee us a true justice? We need to bring back to light and readapt the core values and beliefs.

The economy is just a subregion of our existence, no doubt very useful, but isn't able to impose its random scientific models as true beliefs. The economic machine has no soul. Today, it is the time of change, because after this crisis, nothing will be as it was. Capitalism, at least as we have known before, has lost its "sacred fire". The capitalist civilization has been evacuated its ethos from the inside. A child or a civilization that no longer dream slowly die and the capitalism remained with only one dream: the personal enrichment.

In "Capitalism, Socialism and Democracy", Joseph Schumpeter proposed an understanding of the "socio-psychological superstructure" of capitalism. He described the most glaring symptom of the capitalism's sclerosis; he called it an obsolescence of the entrepreneurial function. In schumpeterian analysis, the latter one was a veritable *deus ex machina*, removed in the rentiers' profits, in the recent times of capitalism. We can quote some significant lines: "A more or less stationary state would ensue. Capitalism, being essentially an evolutionary process, would become atrophic. There would be nothing left for entrepreneurs to do. They would find themselves in much the same situation as generals would in a society perfectly sure of permanent peace. Profits and along with profits the rate of interest would converge toward zero. The bourgeois strata that live on profits and interest would tend to disappear. The management of industry and trade would become a matter of current administration, and the personnel would unavoidably acquire the characteristics of a bureaucracy. Socialism of a very sober type would almost automatically come into being. Human energy would turn away from business. Other than economic pursuits would attract the brains and provide the adventure." (Schumpeter, 2006, p. 131)

Another symptom of these times is the behavior of the stock exchange, which became a mediocre substitute for the Holy Grail. In general, it seems to us that Schumpeter's analysis captures very well the hyper-capitalism's deficiencies and excesses, the state of capitalism in which we live and which has been adopted as a kind of religion in the last thirty years, as well as its possible collapse.

4. The Remoralization of Capitalism

The full economic crisis, it is much debated about the "moralization of capitalism". It can understand from this that the capitalist system is or has become immoral, but not in intrinsic and structural way, which means it can still be saved. Only its excesses should therefore be called into question. Others argue that, on the contrary, capitalism, by its own architecture, is immoral by definition, so it needs to be changed. Hayek believed that only one intentional individual behavior could be described as moral or immoral, not an entire social system. This leads the Austrian author to consider absurd the concept of "social justice", a concept which he can't give a precise meaning and it cannot be understood rationally. Hayek said: "we might not know what is "socially just" yet know quite well what is "socially unjust"; and by persistently eliminating 'social injustice' whenever we encounter it, gradually approach "social justice". This, however, does not provide a way out of the basic difficulty. There can be no test by which we can discover what is "socially unjust" because there is no subject by which such an injustice can be committed, and there are no rules of individual conduct the observance of which in the market order would secure to the individuals and groups the position which as such (as distinguished from the procedure by which it is determined) would appear just to us. It does not belong to the category of error but to that of nonsense, like the term "a moral stone"." (Hayek, 1982, p. 78)

Therefore, the socialist elites, using the redistribution of income and means of production on behalf of the "social justice", consider that a social system would be an impersonal reality and not an anthropomorphic one. According to Hayek's way of thinking, in this case, the economy and the capitalist system would be amoral. The same phrase is found recently in the book of Andre Comte-Sponville, Le capitalisme est-il moral? In the midst of the social life, the author distinguishes several types of order: the technical and the scientific order, the legal and the political order, the moral and the ethical order. In this case, the economy is placed in the first category, the one of the technical and the scientific order, so morally neutral. This contributes to the ideological justification of capitalism and to any form of cynicism that we see before our eyes. (Comte-Sponville, 2009, pp. 13, 53.)

The science and the technology, and hence the economy, are just rational means, the morality being able to intervene possibly in the way they are used. However, in our opinion, the economy is about a social approach, both in theory and in practice, while the social organization is a fundamental component to define an economic system. The economy is not equal with means, it is also about the goals like the profit or the economic welfare, elements which may be interpreted in moral sense. The political economy doesn't study technologies. Moreover, the economy is not an objective reality which exists independently of the individuals' involvement and which is subject to the inexorable laws. Such a possible drift we called it “economism”. It poses economics a core value which subordinates all others elements and subtracts it from the political control. (Brăilean, 2001, p. 37)

It's understandable we don’t share such an argument. The economy is a human activity that takes place in a socially and politically setting, conceived and organized by human action, and where the subjectivity and the relativity are very present. At all the levels, the economy’s rules are established by the people and may, therefore, be judged in a moral manner and, eventually, modified. The history and the social practice offer enough examples in this direction. The economic science is not a natural one, but social. In this regard, Albert O. Hirschman wrote that morality has its place in the center of our work, in the case that the researchers in the social sciences have to be alive from a moral point of view. (Hirschman, 1984, p. 109) The moral concerns should be internalized by default and consciously by all social sciences. Not to say that Marx considered economics the most moral of all sciences.

It remains to be seen just what kind of morality it may be applied to the field of economics. Of course, we are curious in one which is interested in its virtues and vices, in fact for the whole social system, and thus for political and social features and institutions. However, the Declaration of the Rights of Man and of the Citizen of 1789, as well as the American Declaration of Independence of 1776, somehow stops at the gates of the economic approach. Or, they should be extended to the economic field, if we want to have a moral economy and politics too.

When we are asking “what kind of morality?”, the best answer is found in Immanuel Kant who refers to the common moral sense, the universal criterion which requires to respect the other one, not to turn it just into a useful tool and to appreciate its autonomy. Beyond any metaphysical or religious reasons, the moral criterion simply requires us to give up any political dominance, social oppression and economic exploitation.

In this spirit, to moralize the capitalism may prove difficult, if not impossible, because it is immoral by definition, as long as it is put in the service of a minority which dominates from political, social and economic aspects, while the majority of population records a lack of autonomy and is employed in different circumstances.

In political and social terms, the democracy and the human rights partially solve the problem from the economic point of view, but the moralization of capitalism can’t be else than suppressing it, but it's extremely difficult to consider if we have something better to put in place.

5. The Capitalism's Pendulum

The current crisis is not cyclical, but structural and systemic. An almost religious trust in Alan Greenspan made the "bubble" to expand to unreasonable rates, while turning off for some time the cyclical movement of the capitalism's pendulum. Moreover, Alan Greenspan acknowledged the defeat. In Congress, he said in October 2008 that "Those of us who have looked to the self-interest of lending institutions to protect shareholders' equity (myself especially) are in a state of shocked disbelief."[1]

The bankers' greed was just an epiphenomenon, but who guarantees us that the regulators are genius and they can't sink us into a deeper crisis? It is a fact that these "bubbles", even though not in a so high degree, are a natural symptom of the capitalism and the free market economy.

Nouriel Roubini believes that such shocks are not bizarre phenomena, but natural and inevitable features of such a system. In a recent book called *Crisis Economics*, Nouriel Roubini and Stephen Mihm wrote: "That's the recent crisis in a nutshell, but it could be the story of almost any financial crisis. Contrary to conventional wisdom, crises are not black swans but white swans: the elements of boom and bust are remarkably predictable. Look into the recent past, and you can find dozens of financial crises. Further back in time, before the Great Depression, many more lurk in the historical record. Some of them hit single nations; others reverberated across countries and continents, wreaking havoc on a global scale. Yet most are forgotten today, dismissed as relics of a less enlightened era." (Roubini & Mihm, 2010, p. 19)

When the tide goes in one direction, it is irrational and counterproductive to grab the opposite trend. The wave will collapse at some point, but everyone attempts to catch a boat and increase the profits. As Keynes once said, the market could remain irrational far longer time than someone could be solvent.[2]

You may think logically and go bankrupt and vice versa; it may seem the markets are unpredictable, don't obey the formal logic, but rather the chaos theory or game theory. The main quality of knowledge is to intuit and interpret the signals that may burst the "bubbles". The logic of the financial markets is a blind one.

Therefore, the crisis wasn't born by a pilot's error, it wasn't a human one, but the systemic problems, instead of being controlled, have been speculated for the

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[1] Andrew Clark, Jill Treanor, *Greenspan – I was wrong about the economy. Sort of*, The Guardian, 24 october 2008, http://www.guardian.co.uk/business/2008/oct/24/economics-creditcrunch-federal-reserve-greenspan.

[2] Colin Read, *For John Maynard Keynes, Economic Theory Was a Sideline*, 2 November 2012, http://www.bloomberg.com/news/2012-11-02/for-john-maynard-keynes-economic-theory-was-a-sideline.html.

benefit of the gamblers, as shown by Michael Lewis in *The Big Short*, where he describes complicated madness subprime loans and financial products, fabulous stories about greed and stupidity. (Lewis, 2010, pp. 7-24)

Many countries helped with public aids to save the banks and/or big companies, and now are pressed by the burden of large deficits and debts. The current issue is how we save these states? In the first place, the European ones most affected like Greece, Cyprus, Portugal or Spain. The European Commission has imposed a package of drastic measures to reduce the deficits. If these steps are not complied with, and even the head of the European Commission has warned, it is probable that “if they do not carry out these austerity packages, these countries could virtually disappear in the way that we know them as democracies. They've got no choice, this is it.” (Groves, 2010)[1] How many dictatorships were brought by the crisis of 1929-1933? In addition, it is emphasized the fact that euro is threatened with extinction. There are apocalyptic visions of European democracies’ collapse under the burden of public debts.

The presence of strong etatist economies, where the only growth engine is indebtedness, has a negative effect towards the free entrepreneurial adventure and incentives, or what James Buchanan warns about killing the goose that laid the golden eggs. The irony is that the strongest economies have the highest debts, in this regard; the top is started with America. In this direction, the model of debt-based growth seems to have come to an end. Today, the sovereign debt of countries of the world escaladed 51.000 billion dollars[2], approximately 50% more than in 2007.

According to the OECD, very soon, the public debt of the first 30 economic powers of the world will double in comparison with the 1990s levels. Japan will hold the record with 200% of its GDP. The sages of the financial market from around the world already see another crisis on the horizon, a public debt crisis. It is possible we sit (in)voluntarily on a powder keg...

6. Conclusion

This protracted crisis will erode the power of Uncle Sam, and the world will become multipolar. To ensure the security of the global public goods, America will increasingly depend on its allies, which now are neglected, and will have to face the challenges of the new emerging powers. China, for instance, tends to become from a continental power a maritime one in the Pacific. Also, China, followed by India, have developed significant anti-satellite capabilities, which have major

[1] http://www.dailymail.co.uk/news/article-1286480/EU-chief-warns-democracy-disappear-Greece-Spain-Portugal.html.

[2] http://www.economist.com/content/global_debt_clock.

implications for the balance of the concerned areas, for the regional geopolitics, for the growth of new types of conflicts and alliances that will come. Other challenges come from the Arctic zone, where 5-6 global powers flock in exploiting the resources under the melting ice.

The current international system's architecture is based on an open access to the global economy, which depends on the stability of the global public goods: oceans, seas, outer space, cyberspace, air and others. Who will ensure free access to guarantee a healthy international system in order to facilitate the trade and the fluent movement of the values? For now, the only power that can do this is the U.S.A. The rules that govern the international behavior and the relations between the countries have to be extended to the virtual space and outer space, while the maritim one is pretty well regulated. Unfortunately, the potential impact in all these areas is even greater as the great powers are more dependent on energy imports.

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From Economic Behaviour to Behavioural Economics

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Abstract: Mainstream economics postulates the existence of an economic man endowed with rational and self-interested behaviour. The aim of this article is to analyze the relevance of this attributes, since the economic behaviour is, both, a form of human action and the object of the study of economics. Moreover, we go further with some particular objectives and examine the role of behavioural economics and the way in which it relates to the traditional model. The current events on the world stage have generated heated debates in the academic world with respect to the adequacy of the analysis of the economic models to reality. Thus, the 2007 financial crisis highlighted some lacks of the neoclassical model, which still dominates the economic analysis, and sent to a reconsideration of its foundations. We found out that, through a multidisciplinary approach, behavioural economics attempts to answer many of these shortcomings, by considering a broader analysis in the study of economic phenomena. Furthermore, the article shows how this field of study can increase the explanatory power of economics by providing it a more realistic psychological basis, given that the human behaviour is not only the subject of economics, but also of psychology and of the social sciences as a whole.

Keywords: economic behaviour; *homo oeconomicus*; mainstream economics; behavioural economics.

JEL Classification: B0; D01; D03

1. Introduction

The evolution of today's world economies, marked especially by the worst financial meltdown since the Great Depression, has generated a heated debate in the academic world regarding the adequacy of the analysis models of economic behaviour to reality. It also has determined a review of its interdisciplinary study and has caused a reconsideration of its fundamental bases. In other words, the present financial crisis has brought into discussion the need to rediscover that beyond any formal, mathematic and abstract model, economics is a social science (Diacon, 2012, p. 297; Diacon, Donici, Maha, 2013, pp. 27-28) having in its core point the man and his behaviour. Moreover, the latest developments in the fields of psychology and neuroscience made possible a better understanding of the human

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behaviour. In these conditions, behavioural economics, a new branch in the field of economics, developed mainly since the 1950s, has increased the interest of the specialists. The specialists try to understand economic decisions and behaviours with instruments mainly from psychology, but also from other social sciences (such as sociology, politics, anthropology, philosophy, biology, or neuroscience). In this respect, Davis appreciated that "behavioural economics only became a research stream in the mainstream via paradoxes in rational choice theory, though psychological theory has been around forever" (Davis, 2008, p. 59).

The aim of this article is to examine how behavioural economics can enhance the realism of the economic assumptions using psychological concepts, since the economic behaviour is both the object of the study of economics and a form of human action. Furthermore, the analysis takes into account how this sub-discipline relates with the neoclassical theory and the *homo oeconomicus* model of economic rational behaviour.

2. The Economic Behaviour: Object of the Study of Economics and Form of the Human Action

The mainstream analysis offers to the individual choice theory a predominantly quantitative point of view. In this vision, market behaviour is influenced by economic variables that can be easily measured and analyzed with mathematical operations and equations, i.e. the price and the quantity of the goods or services and the personal income. In addition, its basic principles, namely rationality, objectivity, efficiency etc., constitute a strong support. The neoclassical model shows that from a certain available income the individual will procure goods and / or services at a certain price on the market, in order to meet their needs. The subject of dispute and debate in the academic world is how he does it. It was assumed that the decision of the individual is objective and that he is perfectly rational and informed, being able to operate with mathematical models. He is also guided only by self-interest. Man follows his own individual utility function. In order to maximize his utility he must be able to mentally calculate and compare. These things have made from the *homo economicus* the perfect economic man. But what happens when the individual does not comply with these assumptions? When operating on the market, the real economic agent is conducted by more factors. Thus, the individual economic behaviour (as part of the human one) can be influenced by numerous elements (Cătoiu and Teodorescu, 2004, pp. 47-84). Generally, they are grouped into two categories: external and internal. The external factors which are related to the context or the physical environment, in which the individual operates, include the economic, demographic, socio-cultural, and religious aspects. The internal factors are related to the human psyche and comprise personality, motivation, learning, attitude etc. Anyway, many of the externally influences have become internalized. These behavioural determinants do not occur separately, but form an interconnected network, each determinant having a different degree of importance in various moments.

Anyway, what is most often criticized to the traditional model is the attribute of perfect rationality. Man is endowed with a rational principle that distinguishes him in the world. He has a native faculty to think logically, to know and to understand, to some extent, the meaning and the connection between phenomena. But this rationality (and everything related to all human nature), although perfectible, it can never be perfect, pure or complete. Not all the time the economic decisions are rational from an economic point of view. Furthermore, the actions that define economic behaviour are justified in the economic analysis in terms of two approaches: one is objective and rational (based on Cartesian rationalism, determinism and logical positivism) and the other is subjective and empirical (based on scepticism, relativism and culturalism). In time, the hypothesis of rational economic behaviour, which is based on the maximizing assumption, imposed in scientific circles. This was mainly due to its possibility to generate abstractions and to compress a high number of facts in a corresponding universal law or model like is *homo oeconomicus*. The rationalism and the objective, causal and a priori knowledge considers the comprehension of reality beyond the experience of the observer. Knowledge is gained a priori, independently of experience. In contrast, according to the empiricism and the subjective knowledge, the objective comprehension of reality is affected by the personal perception of the author. However, between these two diametrically opposed views, there is a synthesis performed by the philosopher Immanuel Kant, who argued in terms of a duality of the knowledge process. By invoking the transcendental element, the author proposes a reconciliation vision between subjective and objective, on one hand, and rational and empirical, on the other hand. This, because reason and experience are intertwined in the process of knowledge, they cannot be by their own exclusive way of it (Parthenay, 2008, pp. 26-34). The presence of the individual both as subject and object of the scientific knowledge influences the objectivity of economics and in this respect the remark of von Mises (1998, p. 21) is more than eloquent: “the objectivity of our science consists precisely in its subjectivity”.

3. Is *Homo Oeconomicus* a Reference for the Economic Behaviour?

The onset of the *economic man* or *homo oeconomicus* concept is sometimes associated with the classical period, especially with Adam Smith who in his book *The Wealth of Nations* referred to a sort of self-interested and rational economic behaviour. But Smith also proposed a complex psychological explanation of the individual economic behaviour especially in the *Theory of Moral Sentiments*. In his vision, man is both self interested and altruistic (a state that the author calls it sympathy). It is important to remark that Adam Smith, who has promoted the vision of self-interest as a natural inclination of the human being (which help men to pursue his own economic freedom and, thereby, to increase his earnings), did not deny the men's altruistic feelings and his moral condition - which have their source, according to the author, in "sympathy" (the individual's ability to imagine themselves in the situation of others) (Smith, [1759]2006, pp. 4-5). However, despite its classical roots, the *homo oeconomicus* model is a neoclassical construction. Both, the concept of individual rationality and self-interest, were significantly altered by the neo-classical school. Its representatives sought to reshape economics as a natural science, in order to give it a greater scientific rigor. They developed the concept of *homo economicus*, whose psychology was fundamentally rational and selfish: in his choices, the individual is guided by the alternative action that leads only to maximize its monetary benefits. In this view individuals seem to live mechanic, without having emotions or ethical principles. The model was built on the assumption that the individuals will attempt to maximize their utility in a rational, calculated, well-informed and self-interested manner. Since then, *homo oeconomicus* became a reference model in explaining economic phenomena and behaviours.

Homo oeconomicus has been widely criticized throughout time. The major accusation consists in the fact that the rationality premise is never encountered in reality, and that, despite the elegant decision models based on it, it is just an abstraction which does not capture the feelings that humanize behaviour such as "pride, lust, envy, anger, sloth, greed, selflessness and devotion" (Munteanu, 2001, pp. 124-125). Moreover, its purpose was to capture the reality and to be a replica of it, but it proved to be just the opposite - artificial and irrelevant in accordance of the real events. Some authors considered that the theory of rational choice (with the two major approaches proposed by it: internal consistency and follow-interest) is necessary but not sufficient (Sen, 2005, p. 190). Nevertheless, *homo oeconomicus* has enabled the development of economic theory because, although it neglects a lot of human characteristics, it incorporates those of the perfect economic actor that works to maximize its utility. In this sense, Milton Friedman stated that the economic agents do not take decisions following their optimization calculations, but they behave as they would have done this (Friedman, 1953 in Hausmann, 1993, p. 204). Aristotle states that the man has a rational principle. The human by its nature is endowed with consciousness, but it is complex and contradictory in the same time. Therefore, a need to (re)define the concept of rationality appears that sends us to the meaning of the term, as Stiglitz (2010, p.391) stated "what economists mean by rationality is not exactly the sense that most people give it". In a broad definition of rationality Simon argues that "almost all human behaviour is rational. People have reasons for the actions they undertake and, if asked, they may offer their opinions on these grounds" (Simon, 1995, p. 45). A rational economic decision in a common sense (supported by most economists) is described as one that is not only motivated, but also optimal in order to achieve a goal or solve a problem, knowing as much information as possible about the possible outcomes of the action and choosing the most appropriate means to achieve the purpose (Baciu, 2005, p.177).

Moreover, our century is one of information. Without doubt it is a digital one. The development of technology, especially of the Internet, has opened new perspectives in all aspects of life. We live in a world of information that changes with amazing speed, sometimes from day to day. Can we speak, in these circumstances, of a perfectly informed economic agent?

As Berg (2010, p. 867) explains, the hypothesis of unbounded self-interest is often described as one which holds that individuals only care about their own monetary rewards and are completely indifferent between the allocations of payoffs to different members in a group, as long as their own reward is constant. In present, the economists call into question this assumption and try to study the extent to which individuals pay attention to the general allocation of rewards among participants in a strategic interaction, which is encountered in the literature as the alternative hypothesis of social preferences. Some studies conducted in the branch of behavioural economics (for example the dictator game or the ultimatum game) pointed out that the individuals are not indifferent about the payoffs of others members in a group. This preferences requires both the existence of positive (pro-social) preferences (such as altruism etc.) and negative (hostile) preferences (such as spite, envy etc.). Both increases the psychic gain of the individuals and are forms of social preferences.

Thus, appears a need to shape a more human and emotional *homo oeconomicus*, and to underline that the common individual (that economics analyzes in an everyday decision making process) has not all the attributes given by the neo-classicists, but that he is also driven by intuition and emotions.

4. A New Age of Economics: Behavioural Economics

Behavioural economics is based on the assumptions regarding the human behaviour that reflect the presumptions, results and conclusions from economic and psychological studies along with the findings of other social sciences such as sociology, politics, anthropology, philosophy and biology. Because psychology recurrently examines human judgment and behaviour, it can provide important information about the human characteristics (that are different from those indicated in the traditional economic assumptions). Moreover, it aims to provide fair descriptive hypotheses about cognitive abilities and emotional responses of individuals in their economic decisions, considering in its analysis, both the institutions and the specific context of circumstances (Schwartz, 2007, p. 4). For example, its scholars claim even that the financial crisis started in 2007 is the result of an economic system built on a false premise. Traditional economics assumes that individuals are capable to take the most rational decisions and to make accurate economic calculations even when these must to be made on a short run. The reality is that people do not always take the best decisions, and, even more, they repeat the same mistakes over and over again. They do not know how to calculate risks of economic operations (sometimes not even on long run), and they are often emotionally motivated. There are also evidences that people are repeatedly and irrationally too confident (Arieley, 2010).

In 1950 the Nobel laureate Herbert Simon developed the idea of "bounded rationality" as an alternative for the hypothesis of the (unbounded) rationality and promoted the unification of psychology and economics (Simon, 1955). His theory incorporates the cognitive mechanisms of individual and tries to explain how people look for *satisfaction*, rather than to *maximize* their utility - as mainstream economics postulate. Moreover, the term of "behavioural economics" is generally associated with the pioneering work done by George Katona, who in his work *Psychological Analysis of Economic Behavior* distinguished between "genuine decisions" (made with a complete rationality) and "routine behaviour" (that is influenced by attitudes, habits, customs, etc.). (Katona, 1951) Another seminal work of the emerging area of behaviour economics is considered to be the prospect theory of Amos Tversky and Daniel Kahneman (Kahneman and Tversky, 1979). The authors show that the individuals compare the possible outcomes of different actions in relation to a reference point. Furthermore, when are faced with the possibility of loss, people reveal a higher sensitivity than for the gains - concept known as loss aversion.

However, behavioural economics originates in the works of the classics, a time when microeconomics was closely related to psychology. For example, Adam Smith, as it could be noticed, used psychological complex explanations of human behaviour in general and economic behaviour in particular, including references about fairness and justice. Also, Jeremy Bentham proposed psychological foundations for the concept of utility. The author equals utility with pleasure and disutility with pain. He clearly states that utility refers to the property of an object to produce "benefit, advantage, pleasure, good or happiness", or to prevent "mischief, pain, evil or unhappiness", to the individual (Bentham, [1823]2010, p. 12). Furthermore, even important neo-classical economists operated with suitable psychological explanations of economic behaviour. For example, Irving Fisher promoted the idea that the inter-temporal choice in markets (or the decision between the present and future consume) is determined not only by objective factors (which are characteristics of the income flow), but also by personal factors (namely foresight, self-control, habit, life expectancy, concern for the lives of others and fashion) (Thaler, 1997, p. 439).

Behavioural economics is therefore a branch of economics that challenges traditional economic assumptions and studies how people actually make choices every day. Behavioural economists seek to broaden and improve traditional ideas with decision-making models borrowed from psychology, and through its multidisciplinary approach. However, it abandons some traditional ideas, mainly the ones related to the foundation of the economic rationality in neoclassical design.

It analysis take into account that people are lead in their economic acts by their preferences (which are not stable in time), interests and emotions. Many of the studies conducted in the field of behavioural economists are based on the observation of some anomalies (or paradoxes) besides the standard model. This approach, on one hand, examines the issue in terms of the human limits (especially cognitive) underlying such behaviours (this research uses mainly laboratory experiments and produced convincing evidence that individuals react differently compared to the assumptions of the traditional theory) and, on the other hand, deals with how far the economic analysis must be adjusted to integrate these anomalies in theory and treat them as regularities (Camerer and Loewenstein, 2004, pp. 3-53). Anyway, many studies have demonstrated that, more than to use rationality, people use heuristics. These are rapid mental commands which usually involve focusing on certain aspects of a complex problem and ignoring others. They increase the probability to successfully perform a task, but may or may not lead to the correct solution.

Specifically, what are the differences between conventional economics and behavioural economics? Neoclassical economic analysis assumes that people are rational and seek to maximize utility. The standard economic model of human behaviour is based on three principal unrealistic characteristics (rationality, selfishness, and unlimited will) which are challenged by behavioural economics. If, on one hand, *homo oeconomicus* model is a powerful analysis tool, on the other hand, it has many shortcomings that can lead to unrealistic economic analysis and inconsistent policies. In these conditions, behavioural economics may help explain why people do not always behave selfishly, why they do not always act in the most economically or logical possible way, and why they assign a higher value to some objects than other objects that have the same real value. It therefore seeks to provide relevant answers to the non-selfish behaviours (such as altruism, justice, tastes, ethical spirit etc.), which have been quite enough ignored in traditional theory.

The ultimate goal of behavioural economics is to increase the explanatory power of economics with the help of a realistic psychological base, because human behaviour is not only the subject of economics, but also of psychology and social sciences as a whole. This belief does not imply a total rejection of the neoclassical approach - of the economic theory based on utility maximization, on equilibrium and efficiency. Neoclassical theory is useful because it provides a theoretical framework that can be applied to almost any kind of economic behaviour (and even non-economic).

The notion of rationality (or bounded rationality) has implications for public policy. For example, a study conducted by Eddy (1982 in Etzioni, 2011, p. 1111) in the field of decision making in education showed that most physicians (95 out of 100) "were unable to combine two probabilities to determine the accuracy of a mammography". And in the literature are many other several studies which support the "liberal choice architecture". This involve the creation of "organizational arrangements that help people make better choices - without requiring them to process information or learn to control their loss aversion or other emotions" (Etzioni, 2011, p. 1111).

The critics of the theory of behavioural economics and its sphere of application raise several objections (Rubinstein, 2006). One of these headlines the rationality of economic agents. It is argued that empirically observed behaviour has a limited application for policymakers and for market situations. For example, the cognitive theories, such as prospect theory, are not generalized economic behaviours. Another critique is that many of its hypotheses have only been tested in the laboratory, in the condition in which a given controlled environment can influence individuals' response. Moreover, when it comes to the method, a large part of this discipline is based on the observation of behaviour or its verbal expression protocol (as describing alternative fictive options) without any real consequence for the subject.

5. Conclusions

The final purpose of behavioural economics is to increase the explanatory power of economics by providing a more realistic psychological basis, given that the human behaviour is not only the subject of economics, but also of psychology and of social sciences as a whole. In the recent period it was proved that it is a great need for economics to return to its origins, to a more human and emotional economic man.

There is no reason for the economic theory to stop at the border of traditional barriers. Economics can improve and enlarge its explanatory basis and discourse. Behavioural economics is a growing field. But to become truly revolutionary, it must provide a critical insight and always be responsive on the aspects that it blames to the traditional economic theory.

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Operations Research; Statistical Decision Theory

Linear Optimization Techniques for Product-Mix of Paints Production in Nigeria

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Abstract: Many paint producers in Nigeria do not lend themselves to flexible production process which is important for them to manage the use of resources for effective optimal production. These goals can be achieved through the application of optimization models in their resources allocation and utilisation. This research focuses on linear optimization for achieving product- mix optimization in terms of the product identification and the right quantity in paint production in Nigeria for better profit and optimum firm performance. The computational experiments in this research contains data and information on the units item costs, unit contribution margin, maximum resources capacity, individual products absorption rate and other constraints that are particular to each of the five products produced in the company employed as case study. In data analysis, linear programming model was employed with the aid LINDO 11 software to analyse the data. The result has showed that only two out of the five products under consideration are profitable. It also revealed the rate to which the company needs to reduce cost incurred on the three other products before making them profitable for production.

Keywords: Linear programming; LINDO; paints; optimization; operations research; models; cost

JEL Classification: C44; C61; M11

1. Introduction

The task of making effective decision in a modern day business environments has become so intricate given the rising complexities in the economic and the different socio-political factors. Though, technology changes constantly with new knowledge, new and unprecedented problems also surface by the day. Therefore, operational efficiency must extend beyond optimising the routine problems to

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addressing wider and strategic issues. To achieve this, decision makers must look beyond personal experience, intuitive knowledge to avert the serious and costly consequences often associated with wrong decisions. All these and many more have made the application of operational research techniques is of fundamental importance to decision- maker (Sharma, 2008).

An essential decision typical of a manufacturing concern is determination of profit maximising product mix without compromising quality Thus, in the present competitive environment, the efforts of manufacturing organizations should be towards optimization of all production variables for profitability and better financial performances. In Nigeria, where many organisational entities are managed by nonprofessional but experienced managers, the use of modern managerial tools is limited. However, non-application of modern tools of management in resource allocation, despite the growing number of modern scientific and tested methods of decision making in a global world can be very costly. Resource scarcity is a major constraint in any firm's decision regarding optimal products mix as well as profit maximisation (see Albright & Wayne, 2009: Arogundade & Adebiyi, 2011). According to Albright & Wayne (2009), these and many other optimisation decisions can be well handled by modern linear programming modelling procedures via appropriate problem formulation and equation fittings.

According to Savsar and Aldaihan (2011), the decision-making in product mix selection is difficult due to large number of possibilities involved. Limitation of resource capacities makes it difficult to meet customer demand and hence reduces the opportunity to earn profits. Several optimization models, including linear programming, have been applied to the product mix selection problem. Since its development in 1947, linear programming (LP) theory and related solution techniques have been widely extended and used as an optimization tool in a variety of problem areas including the production planning and product mix selection areas. However, most of the work involves either theoretical development or hypothetical applications. There is a definite need to apply these theoretical formulations to real life problems. Thus, this is one of those few applications to real life situation of a manufacturing company in Nigeria. Data were sought from the records of the day-to-day activities of the organization for modeling and analysis.

The technique needs the formulation of the problem and fitting it into a mathematical model which could be run with commercial packages like LINDO to get result that will aid optimum decision. Decision-makers are often faced with the problem of determining optimal allocation of limited resources. The problem of determining the best combination of activity levels which does not use more resources than are actually available and at the same time maximize output, revenue, service level,..., or to minimize costs. However, this research effort explored the benefits of using the Linear Programming techniques for product-mix optimization of paint production in Nigeria. This research tries to answer three basic questions. The basic research questions that prompted this work are:

(i) How can we model paints product mix problem with linear programming?;

(ii) Are managers of paint industry in Nigeria aware of the existence and the usefulness linear programming for paints product mix optimization?;

(iii) How can we recommend the use of linear programming software packages for accommodating large product mix data to Nigeria managers of resources?.

To this end, the present paper try to explore the application of basic linear programming procedure for product mix optimisation in manufacturing organisation in Nigeria with the view to establishing how linear programming techniques and the use of LINDO software could contributes to optimal product mix of paints production. While we are aware that both the method and the software have been applied in analysing the optimisation problems across several industries locally and beyond, there is no study on record that has applied same to the study of optimal product mix in paints production particularly in Nigeria.

2. Literature Review

Developed in 1939 by Kantorovich and extended by Dantzig (1947), linear programming is a typical mathematical method for resolving multiple constrained optimisation (MCO) problems particularly where both the objective and the constraints are linear. Unlike a single constraint (SCO) problem that can be resolve with basic traditional approach, the MCO problems are better handled by modern approach. Interestingly, the usage of this mathematical technique has been widely accepted and facilitated by the advent of computers that can ease complex calculations.

In typical SCO problems involving how to reach a particular isoquant in the face of a defined isocost and vice versa, output maximisation and cost minimisation can be traditionally attained at the point of tangency between isocost and isoquant. The real world scenarios require much more with firms facing several constraints either in terms of input sourcing (material adequacy, relevant skilled labour and cutting-edge technology) in the short run or in the form of output specification (quantity and quality requirements). The scope of MCO problems require the use of linear programming since their solutions cannot be obtained from the application of basic traditional approach. Accordingly, we can describe linear programming as a unique way of solving optimisation problems with linear and multi variable objective function where the constraints are linearly equal or unequal.

Linear programming has helped decision makers to set broad objectives and optimise schedules to meet set goals, linear programming and its various extensions like mathematical programming have demonstrated the capacity to solve advanced optimisation problems involving both linear and integer constraints. Simply put, the role linear programming in broad mathematical programme is typical of that of derivatives of functions in calculus. According to Dantzig and Thapa (1997), LP viewed from the methodical point seeks to identify the extreme of functions further satisfying set of constraints in a bid to rationalise several technological and managerial decisions.

Hillier and Lieberman (2005) describe linear (mathematical) programming as a planning instruments that produces outcomes which best approximates specified objectives amidst all feasible alternatives. They added that linear programming application is not limited to allocating resources to undertakings alone but extend to cover all other firm's issues whose mathematical model fits the very general format for the linear programming model particularly those problems that are multi-faceted. Studies on product mix has been considered in literature, Byrd and Moore, (1978) applied LP model to corporate policy making; Lee and Plenert (1996) worked on what is the best tool for analyzing maximizing product mix Profitability. Also Chung, Lee and Pearn, (2005) studied product mix optimization for semiconductor manufacturing based on AHP and ANP analysis while Savsar and Aldaihan (2011) presented an application of linear programming to product mix selection problem in an oil company. But, as far the researchers are aware; none of the previous studies on LP application to product mix was applied to paint production and more specifically in Nigeria where manufacturing sectors are facing some peculiar challenges. Thus, this study will fill the gap in literature.

3. Data and Sources

The major source of data for this study is the personal interview and records of production and operational plan of Paint product companies in Nigeria. However, in other to have an idea of what is obtainable in a particular company for the purpose of generalization of idea; one of such paint companies was chosen as a case study. The choice of this organisation is hinged on the readiness of this organization to release relevant information for the purpose of this study.

4. Data Analysis

This section of the paper analyses the data collected from personal interview at the company by consulting various operational reports and publication of the paint manufacturing company. The interview provided information on the production planning and product mix process techniques used in the organisation. This information in addition with the sales and other operating data was analysed to provide estimates for Linear Programming model parameter. The product mix optimisation was obtained by evaluating the mathematical model Programming model using LINDO computer software, the solution of which included the sensitivity analysis.

Model Nomenclature

The product of typical Paints and company in Nigeria:

Let Xi represent the number of products to be produced at Paint Company. Where **i** range from 1 to 5 represent the following products.

Product Labelling

X_1 represent Intra emulsion paint
X_2 represent Vinlymatt emulsion paint
X_3 represent Sandtex gloss paint
X_4 represent Intra gloss paint
X_5 represent Texture paint

The company produces 5 types of paints (Intra emulsion paint, Vinlymatt emulsion paint, Sandtex gloss paint, Intra gloss paint and textured paint). Ten inputs are needed here to make five different paints product. The ten inputs are; Water (in Litres), Titamin dioxide (kg), Calcium carbonate (kg), Binder resin (kg), Additives (kg), Colouring (kg) Sand (kg), Kerosene (Litres), Pigment-Colouring material (kg), Labour hours per product (hours) and Plant capacity.

The outputs are five types of paints produces at the company. Hence the optimal implementation of these products by the simplex algorithm will be using five (5) decisions variables.

Table 1. Quantity unit variable cost, resources absorption rate and contribution margin of each product

Variables Material resources	Products					Maximum Available
	X_1	X_2	X_3	X_4	X_5	
Water (in Litres)	135000	60000	0	0	105000	300,000Ltrs
Titamin dioxide	9810	8190	3192	1650	7140	30,000kg
Calcium carbonate	128304	59928	63360	2640	74976	264,000kg
Binder resin	10200	8400	7620	4200	29400	60000kg
Additives	357	535.5	36	36	535.6	1500kg
Colouring paste	200	100	15	10	175	500kg
Sand	0	0	0	0	11550	11550kg
Kerosene	0	0	4500	3000	0	7500Ltrs

Pigment-Colouring material	720	360	54	36	630	1800kg
Labour hours per product	X_1	X_2	X_3	X_4	X_5	36000 Hrs/month
Demand for product	X_1	X_2	X_3	X_4	X_5	600000Ltrs
Plant capacity	250,000	141700	15000	10000	85000	600000Ltrs
Warehouse capacity	X_1	X_2	X_3	X_4	X_5	2000000Ltrs
Unit contribution margin (#)	690.66	169.37	2188.74	2037.70	136.72	

Sources: 2012 Average monthly production plan of the paint company

Model Formulation

In the model formulation, the following steps are followed: with reference to the data in table 1;

$\mathbf{x_1}$ = units of product 1 (Intra emulsion paint) produced per month

$\mathbf{x_2}$ = units of product 2 (Vinlymatt emulsion paint) produced per month

$\mathbf{x_3}$ = units of product 3 (Sandtex gloss paint) produced per month

$\mathbf{x_4}$ = units of product 4 (Intra gloss paint) produced per month

$\mathbf{x_5}$ = units of product 5 (Texture paint) produced per month

Z = total profit per week (in thousands of naira) from producing these five products

Problem identification: The problem of this study is to maximize reward (Max Z: $CX_1 + CX_2 + ... + CX_5$)

In formulating the model properly, we have:

Maximise Z (₦ Profit): $690.66 X_1 + 169.37X_2 + 2188.74X_3 + 2037.70 X_4 + 136.72 X_5$

Subject to:

$135000X_1 + 60000X_2 + 105000X_5 \leq$ 300,000Ltrs (water constraints)

$9810X_1 + 8190X_2 + 3192X_3 + 1650X_4 + 7140X_5 \leq$ 30,000kg (Titamin dioxide constraints)

$128304 X_1 + 59928X_2 + 63360X_3 + 2640X_4 + 74976 X_5 \leq 264$, 000kg (Calcium carbonate)

$10200 X_1 + 8400X_2 + 7620X_3 + 4200X_4 + 29400X_5 \leq$ 60000kg (Binder resin constraints)

$357X_1 + 535.5X_2 + 36X_3 + 36X_4 + 535.6X_5 \leq$ 1500kg (Additives constraints)

$200 X_1 + 100X2 + 15X3 + 10X4 + 175X_5 \leq$ 500kg (Colouring paste constraints)

$X_5 <\_11550$ (sand constraints)

$4500X_3 + 3000\ X_4 \underline{\leq 7500}$ Ltrs (Kerosene constraints)

$720X_1 + 360\ X_2 + 54X3 + 36X4 + 630X_5 <_1800$kg (Pigment-Colouring material constraints)

$X_1 + X2 + X3 + X4 + X_5 <\_36000$ Hrs/month (labour constraints)

$250{,}000X_1$ + 141700X2 + 15000X3 + 10000X4 + $85000X_5$	<_600,000Ltrs (plants capacity constraints)

$X_1, X_2, X_3, X_4, X_5 \geq 0$ (Non negativity constraint: There is an assumption that no negative output can be produced).

Results and Interpretation

Taken in order of the result obtained, the result tells us that LINDO took (2) iteration to solve the product mix optimization problem of the case company. Second that the maximum profit attainable from the five products as it was constrained in the above model specified is ₦ 6, 479, 833 (Nigeria naira)

Third, the quantities of each Paints product to be produced: Intra emulsion paint (X_1), Vinlymatt emulsion paint (X_2), Sandtex gloss paint (X_3), Intra gloss paint (X_4) and Texture paint (X_5), are 2, 006, 173, 0, 0, 2,500, 000 and 0 litres respectively. What is interesting in this result is the fact that only two out of the five products are profitable, while others were not profitable for production. Thus product X_1 (Intra emulsion paint) and X_4 (Intra gloss paint) are responsible for the maximum objective of ₦ 6, 479, 833 per month (Nigeria naira) while other three products still required considerable improvement (reduction in the cost resources) before they can be considered for production.

However, from the result of data analysis, it was found out that for the organization to operate optimally in the background of inherent constraints, it must produce 2.006,173 litres of product X_1,- 2.500,000 litres of product X_4 and zero litres of other three products for optimum production.

The essence of operation research therefore is to minimize waste, one of the beauties of the computer software used is that it went further to postulate possible reduced cost incurred the other three unprofitable products if the company wants to produce still achieve maximum profit desired. This includes:

- ₦ 153, 222 (Nigeria naira) on product X_2;
- ₦ 118, 756 (Nigeria naira) on product X_3;
- ₦ 266, 875 (Nigeria naira) on product X_5.

From the above premise, it could be inferred that, though un-utilised capacities abound, but if optimality is allowed, the overall objective of reward maximization of the organization is achievable. It is important to state that solution was optimal at second iteration of the Linear programming problem.

However, it was of greater interest to note also that, organisations should not only crave for maximisation, but optimality. The implication of this is that, reward should be maximized at the lowest cost possible. This is evident in the analysis of this research work using the Linear and Algorithm solution pack called LINDO, where optimum quantities were not only arrived at, but also with the possible cost reduction per unit/litre.

The surplus/slack units were also very interesting in this research work, since it creates opportunity for organisations to see the need for non-idleness of resources. To this end, organisations, having idea of the expected idle resources a priori, it can plan for optimum materials to be ordered for.

The Slack or Surplus column in a LINDO solution report tells you how close you are to satisfying a constraint as equality. This quantity, on less-than-or-equal-to (≤) constraints, is generally referred to as slack. On greater-than-or-equal-to (≥) constraints, this quantity is called a surplus.

If a constraint is exactly satisfied as equality, the slack or surplus value will be zero. If a constraint is violated, as in an infeasible solution, the slack or surplus value will be negative.

5. Conclusion

In the course of this research, a number of findings were deduced. These include the fact that managers of the organisation of case study do not make use of modern scientific tools like LINGO to plan their operations and production.

This optimization model can be used in a production environment to allow managers to choose the production schedule that maximizes profit. From the results of LINDO software use in analysing product mix of company five products (Intra emulsion paint, Vinlymatt emulsion paint, Sandtex gloss paint, Intra gloss paint and Textures paint), we are able to see the effects of changing resources on a profit and how it can help making informed decisions about resources used for production; water, titamin dioxide, calcium carbonate, binder resin, colour paste, additives, sand, kerosene, Pigment-colouring material, plant capacity and labour hours used. It also allows managers to make decisions regarding overtime for employees, temporary worker hiring, and raw materials usage and ordering. This model can be reused on an on-going basis providing management with the ability to do what-if scenarios and give them real insight into what effect changes in their resources might have on profitability.

Considering the challenges of today's world economy at the threshold of the 21st century and technological advancement and other competitive factors which interact in a complicated fashion to give rise to complex decision making problem. It is not easy to make up schedule that is both realistic and economical. Hence, the acquisition of analytical method like linear programming and its software for analysing and manipulating large organisation operations and production data gives edges to the firms.

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