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The Impact of the New Approach Directives on Competitiveness Enterprises in Serbia

Abstract: *The subject of this work is to study and analyze the impact of the new approach directives on the quality, safety and competitiveness of our products through the prism of the requirements, needs and expectations of both producers and markets.*

With the purpose of researching the impact of the new approach directive on the competitiveness of enterprises in Serbia, and on the base of the set models, we have made a questionnaire. The questionnaire has been sent to all companies whose products have the CE mark. This researching should indicate existing quality reserves and product's safety, the level of possible competency improvement and increasing the profit by discharging new approach directive requires.

Keywords: *directives of new approach, competitiveness, quality of product, safety of products, price*

1. INTRODUCTION

A free flow of commodity is the one the basic principles in European Union besides a free flow of services, capital and work force. This freedom significantly contributes greater supply and simultaneously induces competency. For providing free flow of commodity, European Union develops specific mechanisms. New approach directives had the most important place among these mechanisms. Mechanisms needed for acting of the free flow of commodity depend upon preventing of a new obstruction arising on trade, mutual acknowledgement of examination results and certificates and technical harmonization [1].

Reaching the certain level of international competency is also one of prerequisite for European Union acceptance because defined by Lisbon's strategy for European Union acceptance

the countries must satisfy the condition of existing efficient trade economy and competitive enterprise able to stand the pressure of global markets [5, 6, 7].

According to the analysis of doing business of one hundred of the greatest Serbian exporters, we came to information that a number of companies export their products that must satisfy new approach directive requires.

The subject of this paper is to study and analyze the impact of the new approach directives on the quality, safety and competitiveness of our products through the prism of the requirements, needs and expectations of both producers and markets. This work should indicate existing quality reserves and product's safety, the level of possible competency improvement and increasing the profit by discharging new approach directive requires.

2. MODEL IMPACT OF NEW APPROACH DIRECTIVE USE

Basis in the development of this work are based on the application of systems theory, especially models and dynamic simulations of certain economic and organizational systems. The basic method to be used in the making of this work is a method of modeling dynamic complex systems. Given the subject of research with a number of aspects to be integrated, identified the need to develop a model for assessing the impact of the new approach directives [2,3,4].

In consideration of the theme of research it starts from characteristics K1-K18, by what levels of characteristics

(Figure 1) and forms of dependence between the same relations R1-R26 are firstly established. The sign + demonstrates that by increasing of an independent characteristics the value of dependent characteristic increases according to certain relation R_i [8,9].

Precise relation defining depends on the kind of product, competency level in that area, manufacturer's characteristics and requires of directives and standards for that area, us well as costs of consultant services, examination and notification. Because of that, in this work, the authors decided to except model defining and relation form, define the degree of the new approach directive impact.

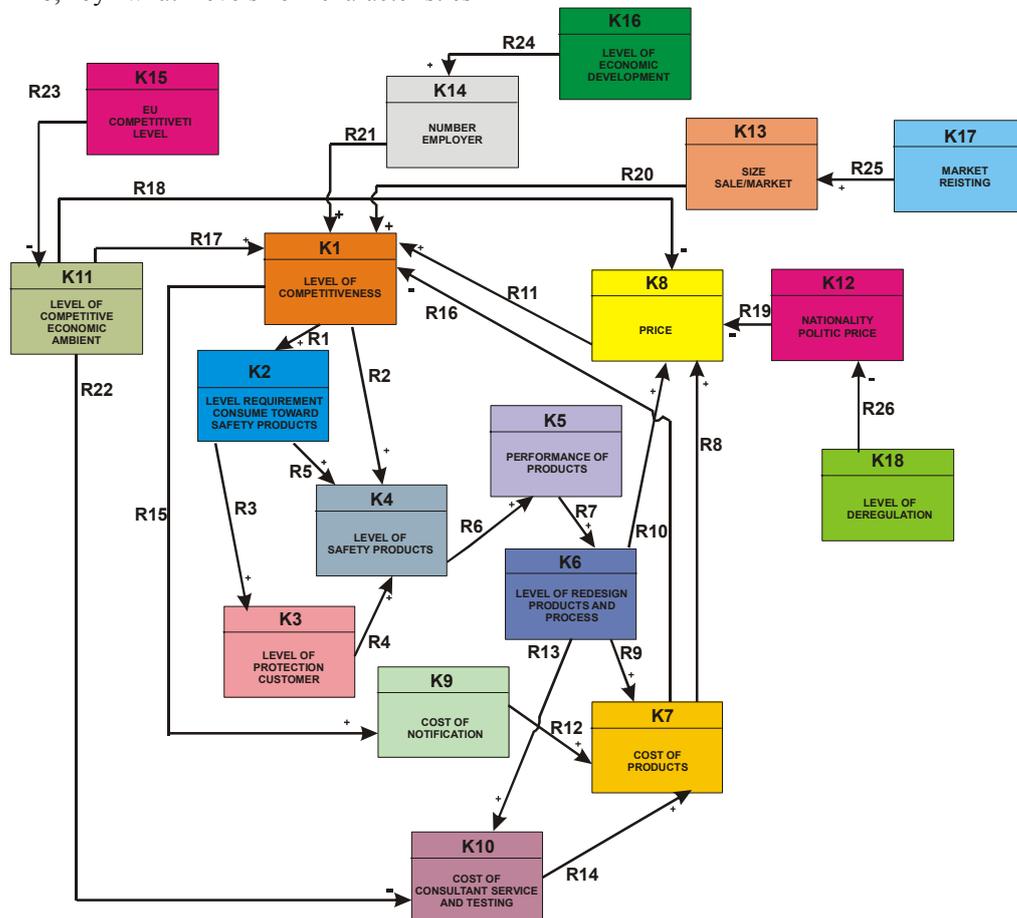


Figure 1 – Characteristics and relations between characteristics

Measure in the area of one middle class example requires (machines for PVC and Al profile curving) and assesses the impact degree according to characteristic's variations for 10 percent, what is real for one year period.

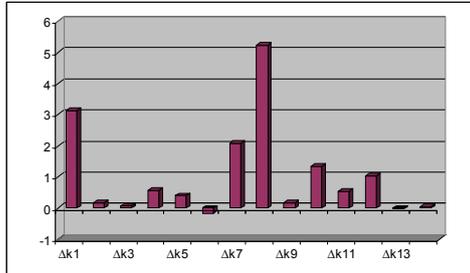


Figure 2 - Sensitivity analysis for initial values K_i

Sensitivity analysis for initial values K_i (Figure 2) and values K_i after the first iteration (Figure 3) shows that the factors K_8 – price product and K_1 – level of competitiveness has the biggest sensitivity and then follows the factor K_7 – cost of product.

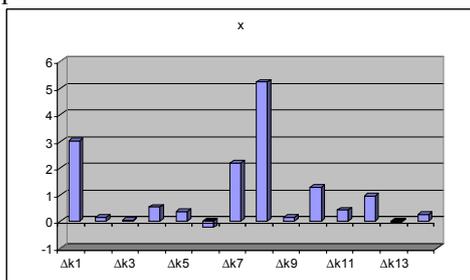


Figure 3 - Sensitivity analysis for values K_i after the first iteration

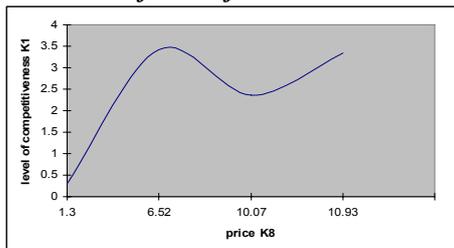


Figure 4a – Relationship between level of competitiveness and price

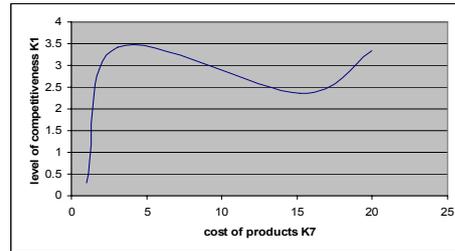


Figure 4b – Relationship between level of competitiveness and cost of products

Product price, as well as product cost price has a dominant impact on the level of competitiveness (Figure 4).

3. RESEARCH THE IMPACT OF THE NEW APPROACH DIRECTIVE ON THE COMPETITIVENESS OF ENTERPRISES IN SERBIA

With the purpose of researching the impact of the new approach directive on the competitiveness of enterprises in Serbia, and on the base of the set models, we have made a questionnaire. The questionnaire has been sent to all companies whose products have the CE mark.

Based on the top of the results, we concluded that the majority of surveyed firms have products which are subject to the directives for low-voltage equipment for electromagnetic compatibility directives and directives for machinery safety (Table 1)[10].

Analysis of the results shows that the CE mark, the most dominant influence is the level of competition, level of safety products and the price for this product (Figure 5).

Table 1

Directive	Products																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Generally product safety																						
LVD (low-voltage equipment)																						
EMC (electromagnetic compatibility)																						
MD (machinery safety)																						
MDD (medical devices)																						
CP (construction products)																						
Toys safety																						

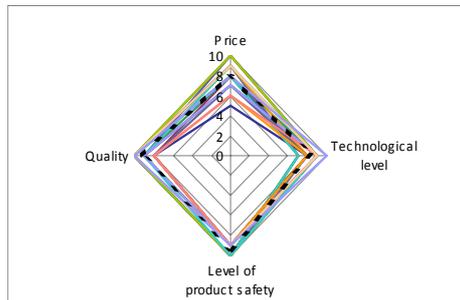


Figure 5a - Level of competitiveness

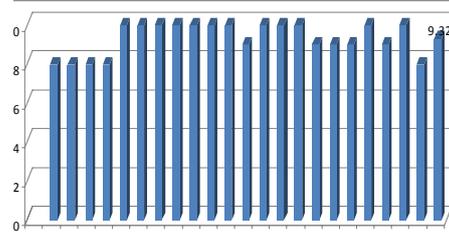


Figure 5b - Level of safety products

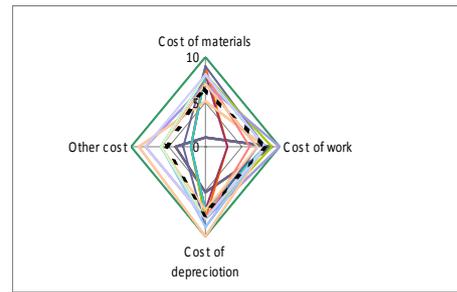


Figure 5c - Cost of products

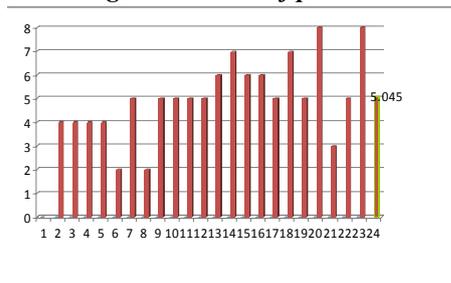


Figure 5d - Price

The purpose of the analysis of the questionnaire survey we created a correlation characteristics (each with each) presented in our model for assessing the impact CE marks. According to the given results we can conclude that new approach directives and CE marking have a dominant impact on the competitiveness, safety and cost of products, and therefore the competitiveness of enterprises as a whole. The following this work will show some of the most important correlation.

We'll start with the most important characteristics, as the level of competitiveness. The relationship between on level of competitiveness and level of safety product shows is in Figure 6, and the relationship between on level of competitiveness and cost of product shows is in Figure 7.



Figure 6 – Relationship between level of competitiveness and level of safety products

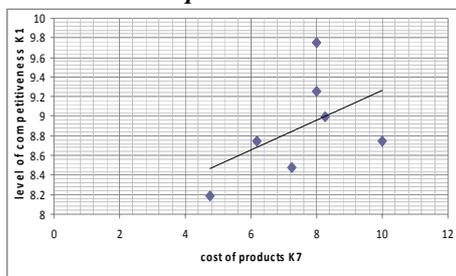


Figure 7 – Relationship between level of competitiveness and cost of products

In continuation of this work show the second, but no less important characteristic - product safety. The relationship between on level of safety product and level of competitiveness shows is in Figure 8, and the relationship between on level of safety

product and level of protection customer shows is in Figure 9.

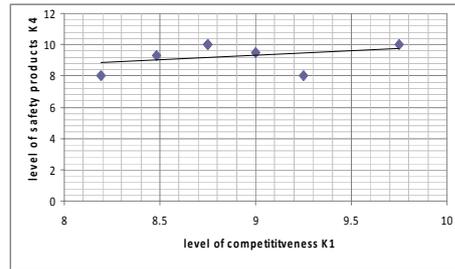


Figure 8 – Relationship between level of safety products and level of competitiveness

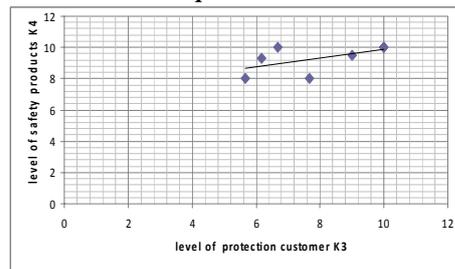


Figure 9 – Relationship between level of safety products and level of protection customer

The relationship between on price and level of competitiveness shows is in Figure 10.

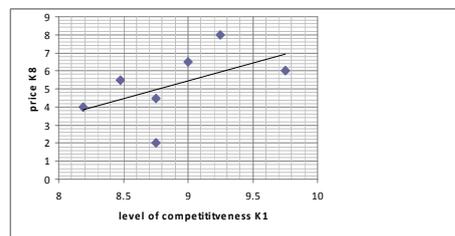


Figure 10 – Relationship between price and level of competitiveness

4. CONCLUSION

his work represents real hypothesis on the basis of expert's experiences, in regard to that the infrastructure with using new approach directives wasn't examined until now, it isn't known which product or industry of Serbia succumb to directives of the new approach and CE mark, and it is

not known which are effects of the use of the CE mark.

The model for assessing the impact of the new approach directives on access to quality, safety and competitiveness products and competitiveness our enterprises is stabilized, it has feedbacks. Model includes the most relevant factors. According to the given results we can conclude that new approach directives have dominant impact on product competency, level of safety products and cost of products, there by on competitive enterprise.

The results of of the researches have theoretical and applicative character. Looking at the theoretical nature are particularly significant results related to the model of safety, quality and competitiveness of products.

Application results of character are particularly pronounced in the following areas:

- Establishing the existing level of quality, safety and competitiveness of the industry of Serbia
- Establishing the levels of the limitation and their impact on the quality, safety and competitiveness of Serbia,
- Defining the impact of the directives to the improvement of product quality,
- Analysis of the impact of directives and their rang of importance for the improvement of products quality,
- Establishing the strategy for the improvement of products quality
- Quantification of the use of the above defined strategies for the improvement of products quality
- Establishing the types of products on which the new approach directives should applied with priority.

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