

## A SURVEY OF SELECTED ENVIRONMENTAL ASPECTS IN MANUFACTURING COMPANIES

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*Summary: The article presents the results of a survey conducted in the in May 2013. The article is centered on some issues in ecology of manufacturing companies and their logistics. Presented survey is concerned in the representation of ISO 14001 certificate in the surveyed companies, in the declaration of environmental friendliness as part of a business strategy, farther in indication of the proportion of recycled materials in production and whether the environmental friendliness is declared as a high value among the other categories of value in terms of logistics processes. This article presents the differences between large, medium-sized and small companies in these aspects.*

*Keywords: environmental protection, environmental logistics, environmental management system, standard ISO 14001, environmental production*

### OPENING

Environmental aspects are one of the areas to which attention is paid by manufacturing companies. This is because of various positive reasons (eg. marketing, lower costs) or negative reasons (sanctions, regulations) or for example on the basis of generally accepted environmental values. LEE, LAM (2012) cites: „A recent survey showed that around 82% of respondents are willing to increase spending on green marketing (Environmental Leader LLC & Media\_BuyerPlanner LLC, 2009) because the companies realize the opportunity to sell the product at a higher price due to the green image and social responsibility.” (1) In the survey, which is presented in this report, was for certain aspects of ecologic thinking examined how strong is the sight in practice of manufacturing companies in the Czech Republic.

OLŠOVSKÁ (2004) summarizes the importance of a systematic approach to environmental management and highlights the differences between established systems and the actual level of friendliness in relation to the environment. „The implementation of environmental management is not an automatic proof that the organization is working without any negative impact on the environment. However, if the organization has established management system really consequentially, if it runs it after certification and is able to defend the certificate in the coming years, it is evident that mechanisms are set up to allow continuous improvement of economic situation of businesses, which is reflected especially in the higher interest in the accomplishment of the eco-behaved business from customers. Another potential positive is the financial savings associated with sanctions by the state in case of failure to comply with basic environmental standards. (2)

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## **1 OBJECTIVE**

The main aim of the article is to present results of a survey from May 2013 relating to certain environmental aspects of practice of manufacturing companies in the South Bohemia and the Pilsen Region.

A partial aim of the article is to verify the following propositions on the basis of a survey from May 2013.

1. Large companies have a greater percentage certification according to ISO 14001,
2. Large companies have a greater share of recycled materials in products,
3. Environmental friendliness in terms of logistic processes is uncommonly high-value of manufacturing companies than other categories of values

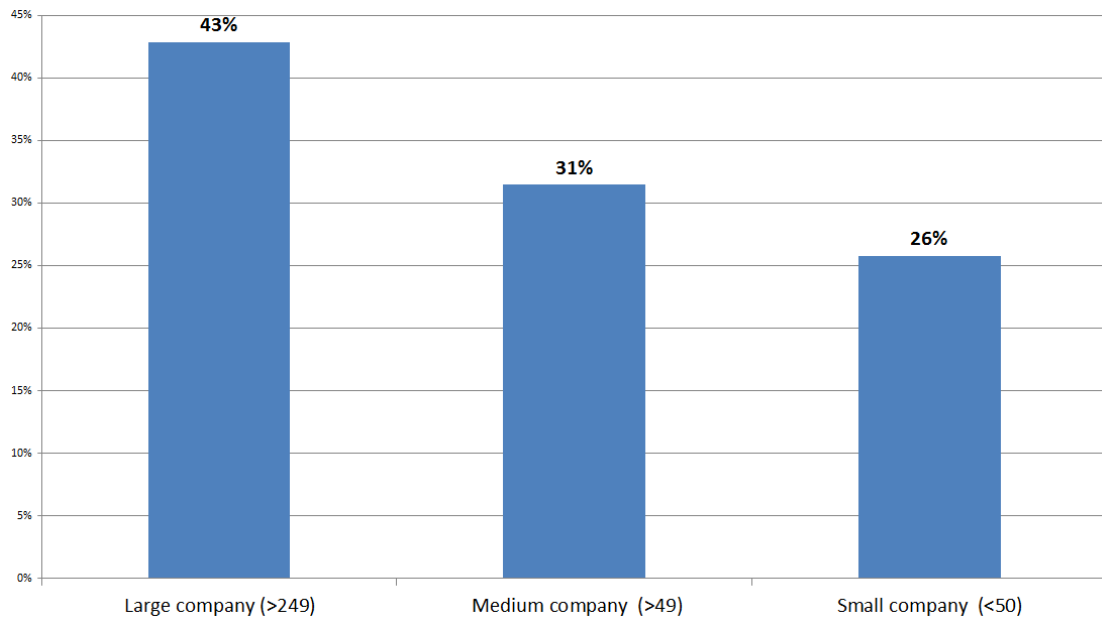
## **2 METHODOLOGY**

Research will be conducted after previous theoretical training and studying literature. Instrument of data acquisition was a survey by a questionnaire, its analysis and evaluation. Questionnaire and methodology of its evaluation have been developed in the framework of logistic processes in the factory at the Faculty of Economics at University of South Bohemia in České Budějovice.

## **3 RESULTS**

### **3.1 Characteristics of the surveyed businesses**

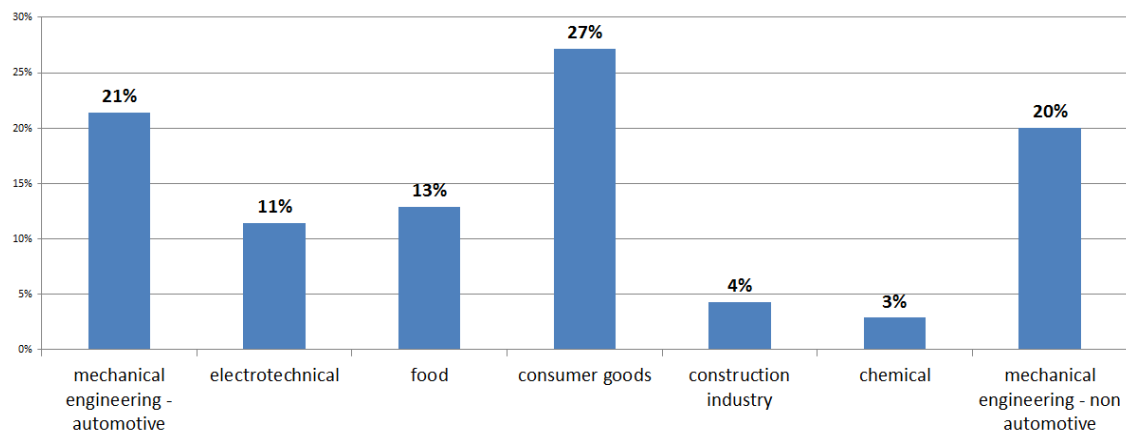
The research was conducted in large, medium-sized and small manufacturing companies in the South Bohemia and the Pilsen Region. The total number of respondents was 70 manufacturing companies. Average time of their existence was detected and accounted for 26,4 years. Distribution was evaluated to size according the number of employees.



Source: own research

Fig.1 - The number of participating companies by number of employees

There were represented various industries in the survey and the following graph shows the proportional distribution.



Source: own research

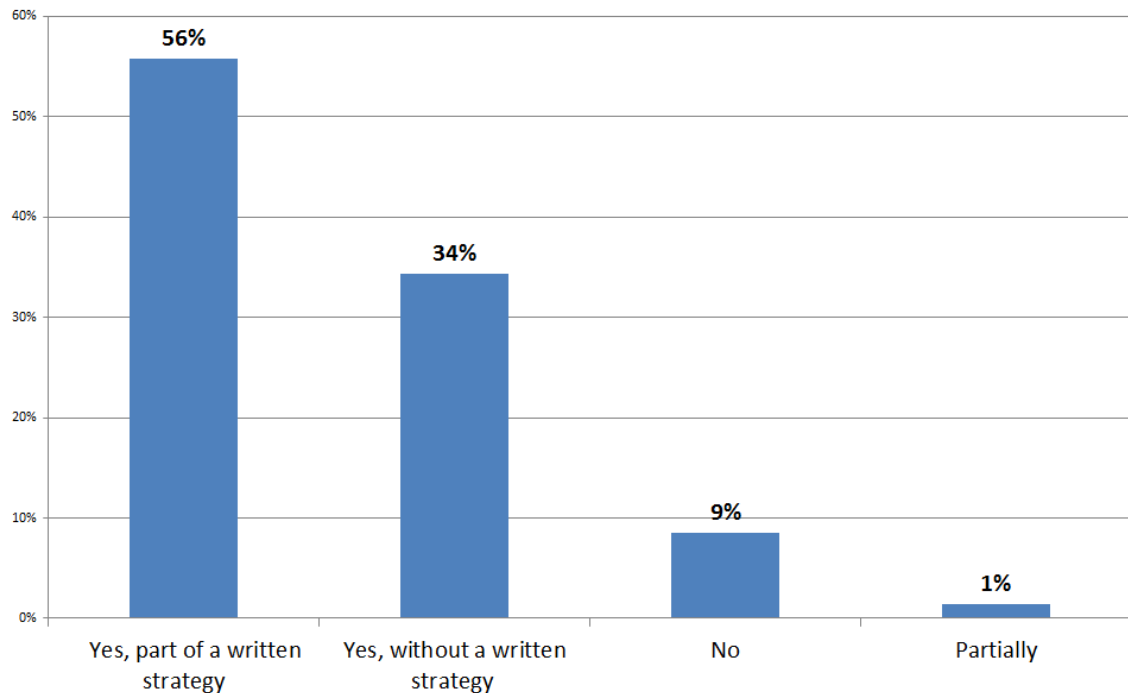
Fig. 2 - Manufacturing sectors in the survey

### 3.2 Studied ecological aspects

The following queried areas were also part of the research:

1. Pursuit of environmental friendliness as part of business strategy,
2. Certificates and approvals of surveyed companies,
3. Use of recycled materials for the production,
4. How high-value represents the environmental friendliness in terms of logistics processes in the company (relative to other interviewed values).

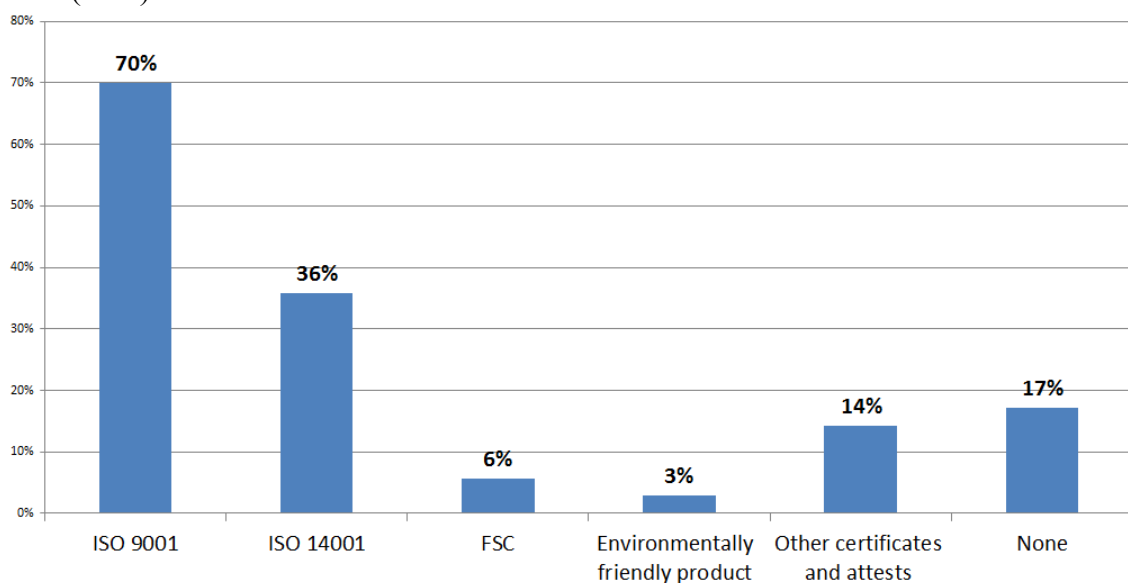
The survey found that 80% of respondents considered the pursuit of environmental friendliness as part of business strategy, of which 56% say that it is a part of a written business strategy. It is listed as a part of a written strategy by 87% of large companies, 42% of medium businesses and 22% of small businesses. They consider it as a part of a corporate strategy at high percentage despite the size.



Source: own research

Fig. 3 - Pursuit of environmental friendliness as part of a business strategy

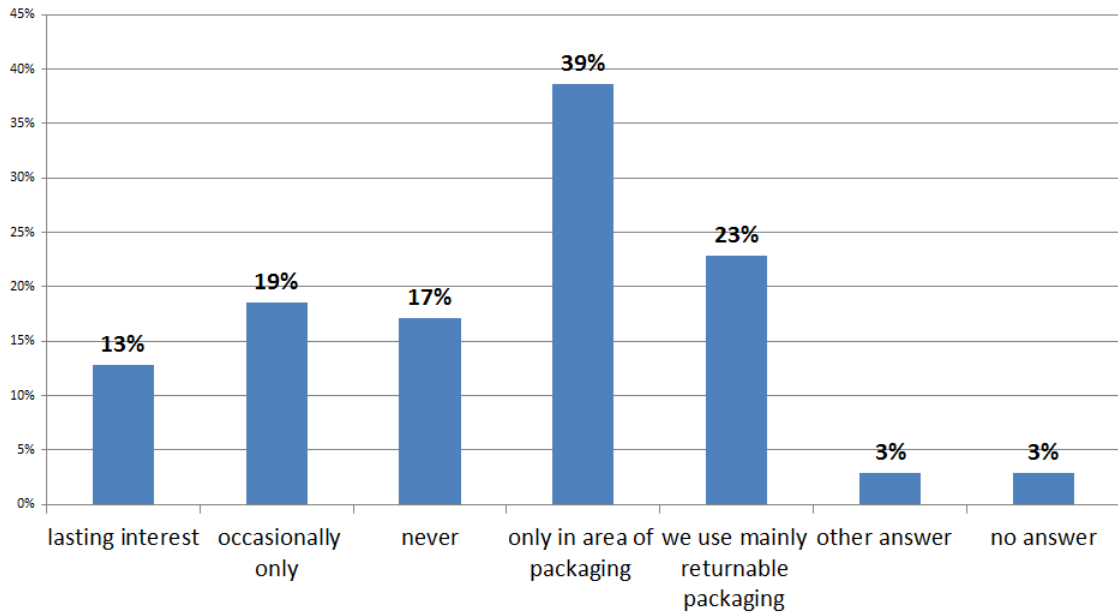
These figures confirm the fact that 60% of large companies cite ISO 14001 certificate. Medium-sized companies cite ISO 14001 in 23%, which is closer to the data of small businesses (11%).



Source: own research

Fig. 4 - Certificates and approvals of surveyed companies

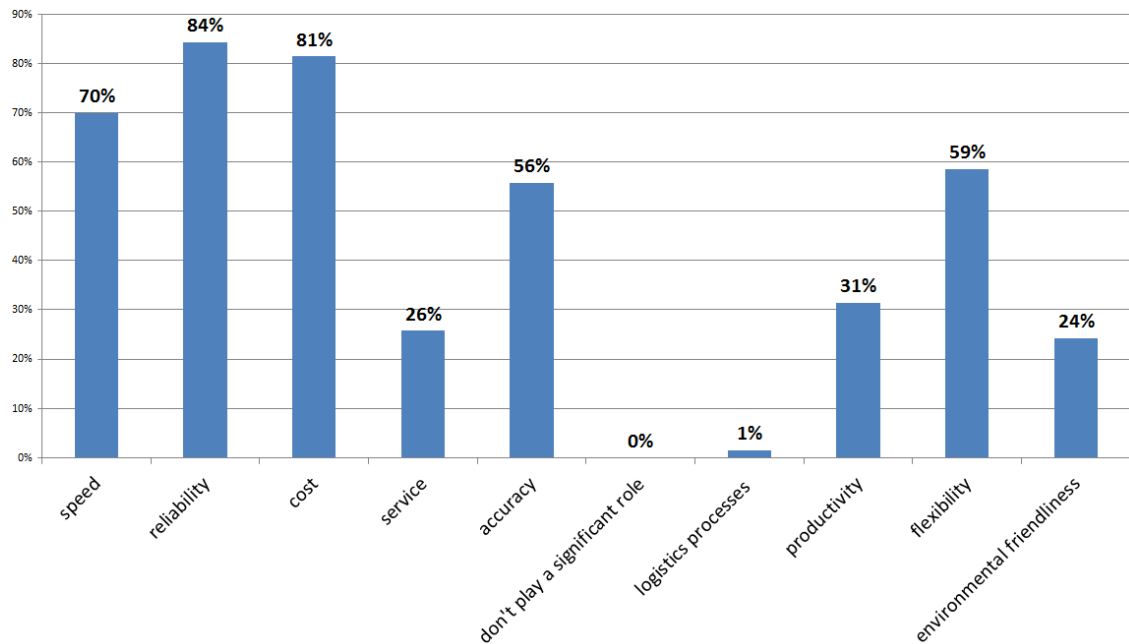
To determine the practical impact of ecological thinking of manufacturing companies in terms of production, a question was asked about shares of recycled materials in the production and in terms of logistics processes. There was not proven greater difference between large and medium-sized companies. Small businesses featured a less commonly lasting interest in recycled materials, but up to twice the occasional use.



Source: own research

Fig. 5 - Use of recycled materials in the manufacturing of the product

Respondents were asked to indicate what is high value in terms of logistics processes while given a choice of categories such as speed, reliability, cost, flexibility etc. Environmental friendliness was said by 24% of respondents. There is a big difference between large and other businesses. Consideration for the environment was identified as a high value by 43% of respondents of large companies, 9% of medium-sized companies and 11% of small companies.



Source: own research

Fig. 6 - High value in terms of logistics processes in the company

## CONCLUSION

Article presented some results of a survey conducted in the May 2013. Evaluated the survey of a queried sample of 70 manufacturing companies confirmed, that large firms have a greater percentage of certified according to ISO 14001. Evaluated survey of interviewed sample of manufacturing companies denied that large companies report a greater share of recycled materials in products. The survey also confirmed that the environmental friendliness is less commonly high valued to the other categories in manufacturing companies, regardless of the size of the company.

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