



DO ENVIRONMENTAL AND ETHICAL ASPECTS OF INTERFUNCTIONAL COORDINATION LEAD TO SMALLER BUSINESS PERFORMANCE?

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Abstract. The paper deals with interfunctional coordination (IFC) from ethical and environmental point of view. It will be interesting to know if the parts of IFC connected with ethical and environmental aspects have positive or negative influence on business performance. Data was gained from 60 SMEs producing electrical equipment and electronic components in the Czech Republic. Survey questionnaire and critical discussion with the literature were used. Kaiser-Meyer-Olkin (KMO) test and Bartlett's sphericity test were applied. For analysing the influence of ethical and environmental aspect on business performance Spearman's rank correlation was used. The results show: (1) a positive relation between ethical aspects and business performance, (2) no positive relation between implementation of environmental aspects and business performance, and (3) no difference in results in marketing business performance and financial business performance. The results can suggest that a preference towards ethical decisions and behaviour leads to a higher business performance and by contraries, environmental aspects leads to smaller business performance. The collected data shows that environmental and ethical decisions of managers in the Czech Republic can differ from environmental and ethical decisions of managers in different countries.

Keywords: ethical aspects, environmental aspects, interfunctional coordination (IFC), business performance, SME.

JEL Classification: Q56, F64, L25, M31.

Introduction

IFC is essential for managers because (1) it obtains information about the market, (2) shares this information, (3) integrates all knowledge and activities, functions and processes within the company, and (4) assists in responses to this information with regard to the coordination activities. Ethics within IFC is often connected with the behaviour of employees, e. g. loy-

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alty, faithfulness, openness, reliability, diligence, responsibility etc. Some research shows that company culture plays the most significant role in ethics creation, e. g. Belak and Milfener (2011). Manurung, Suhartadi, and Saefudin (2015) also stress ethics and ethical decisions in the relationship with IFC. They emphasize that employees who work with ethical principles do not transgress these principles. Itani and Inyang (2015) stress that the implementation of ethical principles in a company can lead to a decrease in stress and internal conflicts. According to Cheng and Wang (2015), ethics can lead to an increase in the identification of every employee with the team and with the company. Ethics can have a positive impact on the relationship between employees and that can lead to higher employee satisfaction (Bigné, Moliner, & Sanchez, 2003). Hašková (2017) shows that regarding the ethical aspect, the new production technology is beneficial in terms of environmental responsibility.

Environmental aspects are connected with offering products according to the needs and wishes of customers. IFC involves only indirect environmental aspects. Sousa and Lengler (2011) note that a highly competitive environment and differences between countries cause higher and more effective interaction, cooperation and communication in the company. Environmental aspects are analysed at different phases of the product life cycle. Wong and Ellis (2007) confirm that a product at the beginning of the product life cycle has a smaller level of market orientation including IFC and business performance than the product in the next phase of the product life cycle. Simultaneously, customers and competitors do not place too many onerous requests on the product during the end phase of the product life cycle. For this reason, products in the end phase of the product life cycle are less environmental than the products in the previous phases of the product life cycle (Sousa & Lengler, 2011). The approach to environmental aspects in the Czech Republic shows some characteristics: improper forms of support may have a substantial market influence, which is possible to see as subsidies for solid biofuels in the Czech Republic (Mardoyan & Braun, 2015). It would be desirable to completely abolish these subsidies, otherwise the market in the Czech Republic may show some failures (Maroušek, Hašková, Zeman, & Vaničková, 2015).

Companies have numerous motives for the implementation of environmentally and ethically acceptable decisions. It is possible to divide them into seven groups – environmental reasons, attitudes of management, public reasons, environmental changes, increasing competitiveness, business performance reason and employees' satisfaction.

The aim of this paper is to understand the impact of the environmental and ethical aspects connected with IFC in financial business performance and market business performance. According to Harrison and Lewellyn (2004), ethical decisions can have a positive influence on business performance in terms of employee pride and improved motivation and enhanced reputation of the company. Another example of the positive influence on business performance is connected with customer loyalty and a better recruiting status. Berrone, Surroca and Tribó (2007) note that companies with a high level of ethical identity have a greater degree of stakeholder satisfaction and this stakeholder satisfaction has a positive impact on financial performance. Schmidheiny (1992) notes that manufacturing companies have the technological knowledge, financial resources and institutional capacity to implement ecological solutions. If the companies are to stay competitive, they must emphasise all new

information (above all needs and wishes of customers) and implement it in their decisions. One customer request is to have more environmentally friendly products.

At present, all these attitudes dealing with environmental and ethical impact are marked as corporate social responsibility. Kim, Kim and Qian (2018) deal with corporate social responsibility of US software companies and conclude that corporate social responsibility improves financial performance when the competitive-environment level is high. Flammer (2015) examines the channels through which companies benefit from corporate social responsibility. Corporate social responsibility has positive effect on labour productivity and sales growth (Flammer, 2015). Wang, Nie and Meng (2018) have the similar attitude. Their research shows that companies focused on corporate social responsibility always produce more than companies aimed on profit maximizing. Albuquerque, Koskinen and Zhang (2018) notice that corporate social responsibility reduces systematic risk and increases value of the company. These effects have a positive impact on higher product differentiation.

For this reason, companies can increase market performance and bring about a positive impact on financial performance in the future. On the other hand, acting erroneously and producing unsafe products attracts public scrutiny, negative press, increasing regulation and litigation. All these factors can cause an increase in cost production.

In the results mentioned above, hypothesis H1 was stated thus: "Ethical aspects have a positive influence on business performance." Hypothesis H2 was stated thus: "Environmental aspects have a positive influence on business performance."

1. Methodology

The research questionnaire is based on the theoretical conception. Likert scale form was used for gaining answers from respondents. Its range was from 1 to 5. Five following questions (two questions were related to ethical aspects and three questions were related to environmental aspects) were used for the analysis:

We offer services, renovation or refurbishing and provide reusing of products.

Our products are compatible with products of different companies or with the older models of our products.

We offer recycling of used products.

We try to be ethical and we implement ethical decisions.

Our workers are identified with the company and support company image.

Business performance is usually measured by using the items of financial performance and items of marketing performance. These items were used for measuring business performance in Czech companies also in previous researches. The first three items related to market performance and the last two items relating to financial performance are the following ones:

Company registers the sales volume which was increased by current customers.

The number of new customers increases every year.

The number of warranty claims decreases.

ROA increases every year.

Production effectiveness increases.

Directors or managers of SMEs producing electrical equipment and electronic components were respondents of the questionnaire. We received 60 fully filled questionnaires, which is 56 % of existing companies.

The Kaiser-Meyer-Olkin (KMO) test and the Bartlett’s sphericity test were applied in order to measure the adequacy of the factor analysis. Results are shown at Table 1.

According to the results, both criteria show that it is possible to use factor analysis (KMO > 0.6, the value at Bartlett’s sphericity test < 0.05). The next step was to detect factors. The part connected with services has 8 factors according to principal component analysis, see Table 2.

The part connected with IFC has 4 factors according to principal component analysis, see Table 3.

Table 1. KMO and Bartlett’s test (source: Authors)

		Services	IFC
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.621	0.637
Bartlett’s Test of Sphericity	Approx. Chi-Square	845.275	1035.701
	Df	351	351
	Sig.	0.000	0.000

Table 2. Total variance explained (source: Authors)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.255	30.575	30.575	8.255	30.575	30.575	5.183	19.197	19.197
2	3.110	11.519	42.094	3.110	11.519	42.094	4.953	18.345	37.542
3	2.479	9.183	51.277	2.479	9.183	51.277	2.244	8.310	45.852
4	1.776	6.578	57.855	1.776	6.578	57.855	1.851	6.856	52.708
5	1.520	5.630	63.485	1.520	5.630	63.485	1.807	6.692	59.399
6	1.364	5.050	68.535	1.364	5.050	68.535	1.785	6.612	66.011
7	1.126	4.169	72.704	1.126	4.169	72.704	1.669	6.181	72.192
8	1.005	3.722	76.427	1.005	3.722	76.427	1.143	4.235	76.427

Table 3. Total variance explained (source: Authors)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.550	52.498	52.498	11.550	52.498	52.498	7.769	35.312	35.312
2	2.191	9.957	62.455	2.191	9.957	62.455	3.855	17.521	52.833
3	1.316	5.980	68.435	1.316	5.980	68.435	2.940	13.365	66.198
4	1.258	5.716	74.151	1.258	5.716	74.151	1.750	7.954	74.151

However, we did not analyze the data distribution according to the software as the software divided the items into groups other than thematic ones. Next, the item identifying whether the experts identify with the business and promotes its image has been assigned to coordination of the information. In this sense, it would be advisable to modify this data collection tool and test it again.

However, the suitability of the questionnaire confirmed the test result Cronbach alfa. The questionnaire was tested for internal consistency and reliability using Cronbach alfa. The level of reliability of the questionnaire measured by the Cronbach's alpha is 0.863.

Standard statistical methods as well as the Spearman correlation coefficient were used for analysing the complete database. Spearman's rank correlation coefficient is used for measuring correlation of two variables as Pearson's Chi square test. The Pearson's Chi square test was not used for the number of respondents and classes (e.g. classes 1–3 and 4–5 for both of the two variables analysed possibly leading to simplified results). Due to the discontinuous scale, other models based on Pearson's correlation and linear regression are not suitable. The software package Minitab, version 17, was used to analyse the data.

2. Findings

Ethical aspects are measured using two items related to *ethical decisions* and *identifications of workers with the company*. Environmental aspects were measured using three items related to service. It is connected with *reusing of products*, *offering compatible products* and *ecology recycling*. Business performance is measured using five items. The first three items are related to marketing performance and the remaining two items are related to financial performance. Items of marketing performance involve items related to increasing current and new customers and a decreasing number of warranty claims. Financial performance involves the item related to increasing ROA and the item related to production effectiveness.

The first value is Spearman's rank correlation: Spearman's rho; the second value is the p-value. If $p < 0.05$, then we reject the null hypothesis (H_0 : items are independent), i.e. accept that the sample gives reasonable evidence to support the alternative hypothesis (H_A : items are dependent).

Table 4 shows a highly positive correlation between the item *identification of workers with the company* and the business performance ($p < 0.05$). Table 1 shows a positive relationship

Table 4. Relationship between environmental aspects and business performance using Spearman's rank correlation (source: Authors)

	Company registers the sales volume increase by current customers	The number of new customers increases year-on-year	The number of warranty claims decreases	ROA increases year-on-year	Production effectiveness increases
Ethical decisions	0.002 0.988	0.177 0.193	0.310 0.019	0.263 0.052	0.341 0.012
Identification of workers with the company	0.447 0.001	0.493 0.000	0.490 0.000	0.429 0.001	0.601 0.000

between the items *ethical decisions* and *number of warranty* ($p = 0.019$). If the company wants to make ethical decisions, it has to offer quality products by quality employees. These employees have to help, explain and show the products in use. For this reason, the number of warranty claims is decreasing. The companies have to satisfy customers because then the customers do not complain, and request exchanges of non-quality products and the customers will use these products. Second, the item *ethical decisions* has a positive impact on the item *production effectiveness increasing* ($p = 0.012$). This impact can be caused by employees and their satisfaction with the ethical decisions of the company. Third, the item *identification of workers with the company* shows a highly positive correlation with all items of business performance ($p < 0.05$). If the employees are satisfied, they are proud of their employer and they want to be connected with the name of the company. These employees have the best motivation to achieve the biggest performance and they help to fulfil the goals of the companies.

Table 5 shows that most of the items related to environmental aspects are independent ($p > 0.05$). Only two items show a correlation; however, it is a negative correlation ($p < 0.05$). The item *We offer servicing, renovation or refurbishing and we provide reusing of products* and the item *Production effectiveness increases* show a highly negative correlation ($p = 0.005$). If the companies are focussed on servicing, renovation or refurbishing, they need to have more information, knowledge, and skills, and that can have a negative influence on effectiveness. The SME companies offering production of electrical equipment and electronic components are characterized by many individual products; it is not often possible to realize assembly-line production. Assembly-line production is more effective than the production of individual products. Production of a new product is more effective than offering service, renovation or refurbishment.

The item *Our products are compatible with products of different companies or with the older models* and the item *The number of new customers increases year-on-year*, show a highly negative correlation ($p = 0.001$). The respondents were SMEs and their production often only complements that of the big companies. They offer specific types of products and if they offer only products compatible with the model of products by different companies, the company is not very attractive for new companies. This is due to the belief that the company does not develop any new products and that the level of innovation is low. The level of innovation is very important for this branch.

Table 5. Relationship between environmental aspects and business performance using Spearman's rank correlation (source: Authors)

	Company registers the sales volume increase by current customers	The number of new customers increases year-on-year	The number of warranty claims decreases	ROA increases year-on-year	Production effectiveness increases
Reusing of products	-0.241 0.082	-0.266 0.054	0.068 0.623	-0.004 0.980	-0.387 0.005
Compatible products	-0.176 0.200	-0.423 0.001	-0.210 0.120	-0.112 0.421	-0.116 0.403
Ecology recycling	-0.093 0.503	-0.081 0.563	-0.112 0.415	0.049 0.729	-0.115 0.412

3. Discussion

The findings of the research suggest that ethics and ethical decisions can have a positive impact on business performance in the Czech companies as well. This outcome corresponds with the results of previous researches conducted in other countries. Ogbari, Oke, Ibukunoluwa, Ajagbe, and Ologbo (2016) showed that there is a significant relationship between the ethical practices of a company and its corporate performance. Chryssides and Kaler (1993) showed the same result. They mentioned that “good ethics is good business”. Collins (2010) suggested that good business ethics should be a part of every business. According to him, if the company adopts good ethics, it increases the positive corporate image, and this automatically translates into an increase in volume and higher business performance. According to the approach of Weaver, Trevino, and Cochran (1999), companies are changing their perspectives and managers are implementing the best ethical practices. Markovic, Iglesias, Singh & Sierra (2018) note that customer-perceived ethicality influences customer loyalty and customer loyalty has a positive impact on word-of-mouth.

Secondly, it was supposed that currently changing environment allows a change of approach for companies in the Czech Republic toward ecology. In this context, Christman's (2000) research brought inspirational results. He stresses environmental factors as one of the key elements to ensure the survival of a company and support its ability to create value for all stakeholders. However, results from the Czech companies suggest that environmental aspects can be independent in many cases or can have a negative impact on business performance. This result corresponds with the outcomes of by Porter (2011). He noted that although a strong link is highlighted between economic, social and environmental dimensions in a strategy, no direct relationship with financial results was shown.

Managerial implications are connected with using the outcomes in managerial decisions. The results suggest that the motivation of the companies to be environmentally focused is not very high. There are not any positive impacts on business performance if the company tries to be environmental. The similar result is shown at many researches. Maroušek et al. (2015) noticed that relationship of the Central European managers to the land differ from West Europeans managers, the managers in the Central Europe have problematic relationship to the environment. Maroušek, Vochozka, Plachý, and Žák (2017) mentioned that no revolution in environmental management is taking place because it depends on production costs and demand from the industry and energy sector. Mardoyan and Braun (2015) noticed that the situation is based on the attitudes of Czech government. Surprisingly, charcoal is not supported, however, solid biofuels are supported. Unfortunately, the most of companies choose the way with the high profit without regardless of environment. The mentioned tendencies are not specific only for the Czech Republic. Río, Romero-Jordán, and Peñasco (2017) stress that it is possible to see absent demand-pull form on the market in Spain. The reasons can be seen in low degree of environmental consciousness and willingness of customers to pay for ecological products.

The results of this research agree with outcomes by Klapilová Krbová (2016). According to her, the consumers in the Czech Republic still prefer low prices and environmental and ethical decisions less of a priority. Industrial market reflects the situation on consumer

market, from this reason, the behaviour of customers are similar on both of markets. How mentioned Chen, Nie, Wang and Meng (2019), this situation corresponds with the attitudes of consumers in the other countries. According to them, when corporate social responsibility companies aimed on emission restriction, social concern has no effect on profits and social welfare. One of the reasons is that product substitutability brings lower social welfare. Government can push companies to implement corporate social responsibility. Oh, Chang and Kim (2018) show that multiple governance mechanisms mainly act as substitutes and can help to increase corporate social responsibility. Contrariwise, Flammer (2013) argues that external pressure on companies to be active in social corporate responsibility (especially responsibility towards the environment) has negative effect, because it exacerbates the punishment for eco-harmful behaviour and decreases the reward for positive eco-friendly initiatives.

According to Hernández-Espallardo and Delgado-Ballester (2009), SMEs have one of possibility of surviving on the market; they need to invest in innovation to be competitive. These innovations should be especially connected with the increasing quality of products and environmental aspects are one important part of this innovation. Innovation brings value for the company. Barata and Fontinha (2017) notice that the main factors contributing to innovation at SMEs are suppliers and growth of business. Sedziuviene and Vveinhardt (2010) confirm this attitude. Only investments in knowledge, inputs into innovation, ideas and technology ensure competitive advantage and long-term business performance. It is obvious that developing and using environmental technologies in production and environmental waste conditioning are an important part of innovation. The impact of innovation and change can have a positive effect on the whole industrial sector and subsequently on the national economy as was mentioned by Maroušek (2015). However, Nie and Wang (2018) stress that their research shows that higher efficiency firms invest less in cost-reduction innovation. This behavior leads to lower efficiency and lower efficiency is connected with lower price strategies.

Findings of this research are limited. Firstly, the results were gathered only at SMEs producing electrical equipment and electronic components in the Czech Republic. Those companies represent only part of the market in the Czech Republic. Furthermore, only more than half of companies of the industry wanted to be involved in the research. Secondly, only Spearman's rank correlation coefficient was used for measuring correlation. Other methods for measuring correlation were not used because of a low number of respondents and classes. We are aware that the mechanisms of this action may be more complex than the results of the Spearman correlation coefficient show, but we only try to point out positive or negative links in our paper, so we do not describe the mechanism itself. Thirdly, it is important to solve the impact of environmental and ethical aspects in short-term and long-term periods. It is especially difficult to understand this relationship in the long-term period because it is necessary to eliminate the other factors affecting business performance. However, it is supposed that this problem will be solved in the future as well. From the mentioned reasons, it is essential to prepare future research where gained results will be validated. Validation is important, because gained results cannot be entirely valid for all branches and countries. It will be interesting to compare these results.

Conclusions

The results detailed in this paper indicate a relationship between environmental and ethical aspects and business performance at companies in the Czech Republic. Our first hypothesis is confirmed, which means that ethics and ethical decisions have a positive impact on business performance. The second hypothesis is rejected. Environmental aspects have negative impacts on business performance.

This paper can contribute to a greater understanding of the behaviour of companies, especially as to why companies do not favour environmental solutions such as offering the reuse of products, producing compatible products and ecological recycling. They often change their behaviour only in line with state rules and sanctions. Preference for ethics and ethical decisions has positive impacts on business performance. For this reason, placing greater stress on a better ethical environment should not be so difficult to implement at companies.

The main result from this research indicates that customers still play a key role in forming the attitudes of companies with regards to environmental and ethical aspects. Companies offer products according to the needs and wishes of their customers. If there is strong pressure for ecological and ethical solutions, then it will be necessary to change shopping behaviour and habits and favour companies with a positive approach to environment and ethics.

Compliance with ethical standards

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