# Expertise, Leadership Style and Communication in Interfunctional Coordination

Eva Tomášková1\*

- <sup>1</sup> Department of Financial Law and Economics, Faculty of Law, Masaryk University, Veveří 70, 611 80 Brno, Czech Republic
- \* Corresponding author, e-mail: eva.tomaskova@law.muni.cz

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#### **Abstract**

The purpose of the paper is to evaluate the effect of expertise, leadership style and communication on coordination by electrical engineering companies. It is unexceptionable that expertise, communication, teamwork and mutual cooperation are fundamental for interfunctional coordination (IFC). A questionnaire in the form of the Likert scale was prepared, it involves information about IFC. The questionnaire was tested for internal consistency and reliability using Cronbach alpha. The complete database of 60 SMEs was analysed by using statistical software package Minitab, version 17. Spearman's rank correlation test was used to answer the hypotheses. The main findings show: (1) A positive correlation among items related to expertise and communications and IFC. (2) Some positive correlation among items related to leadership style and IFC – positive correlation shows only with team-work and mutual cooperation. The results of the paper can assist companies in their attitude towards IFC, by reason that companies can better implement IFC. The novelty of the paper is in determination some possible connectedness of IFC, concretely the correlation among experts, leadership style and communications with IFC of a company. The results of the paper can assist companies in their attitude towards IFC, by reason that companies can better implement IFC.

## Keywords

interfunctional coordination, expertise, leadership style, internal communication, strategic management

#### 1 Introduction

Current markets are extremely competitive, unstable and are constantly changing. According to Neu and Brown (2005) market conditions move from being simple to complex, from stable to dynamic, and from tame to hostile. All managers attempt to discover the best practices for managing the organization in these extremely competitive environments. The main task is to determine goals and to choose the best strategy to fulfil them, with attention on systematisation. A success and ability based conception shows an approach to viewing the behaviour of the company from the point of success, strategy, competitiveness and competitors. (Zich, 2010) It is important to try never ending effort and to be in the front of competitors. (Zostautiene and Daraskeviciute, 2009)

Market orientation is one of the often mentioned management approaches; it is mentioned as an approach based on marketing conception. Many researchers claim that market orientation is a method that helps to contribute to

the better management of a company. It involves, above all, the external environment, final customers, competitors, distributors, suppliers, reflecting knowledge of the decision-making process and interfunctional coordination (IFC). Many researches show that IFC and customer orientation are the two main parts of market orientation. (Kaňovská and Tomášková, 2014).

Tay and Tay (2007) stress that IFC presents a harmonization of all internal functions and processes in a company. IFC helps to better cooperation of all information and activities between different departments or functions in a company.

Depending on the above mentioned, the paper involves part of the results connected with IFC and its connectedness. The research deals with IFC assumption and consequences. The objective of the paper is to evaluate the effect of expertise, leadership style and communication on coordination by electrical engineering companies.

#### 2 Literature review

The first definition of IFC was presented from a logistical point of view. It is the integration of the quality of sale and collaboration among departments with the goal to achieving unity of effort by the demands of the environment (Lawrence and Lorsch, 1967). Since the 1970's many researchers have represented IFC as important to other research fields, especially marketing, management and technology. They also focused to some extent on the positive impact on human resources and corporate social responsibility as well.

Shapiro (1987) offer one of the first definitions of IFC; it was described as cross-functional coordination (CFC). CFC brings harmonization of all internal functions and processes to a company. It is possible to achieve CFC by six approaches: (1) a unified holistic strategy; (2) an organizational structure or management hierarchy; (3) process management and systems; (4) information systems and information systems management; (5) informal social systems and culture; and (6) an employee selection and promotion.

Farzad et al. (2008) continued his work and specify IFC as a flow of information, which is rapid and synchronized, and adoption between structure and strategy. Milichovsky and Simberova (2015) stress that information is fundamental for achieving the required performance and effectiveness of the whole company. In this sense, companies should manage gained information from the external environment and send information to the external environment. Companies should analyse information which is spread to the external environment. It is possible to divide the tasks connected with information analysis in 5 groups: (1) choice of information for publication; (2) liability for collecting information; (3) publication measurement - way and period; (3) way of publishing the information; (5) to whom is the measurement dedicated.

The other point of view shows IFC as a very important component of market orientation. Market orientation focuses on external and internal elements and activities leading to performance increase. The first definition of IFC in connection with market orientation is offered by two research teams. Narver and Slater (1990) describe that IFC coordinates the utilization of company resources for creating an improved value for target customers in the whole purchasing process. Jaworski and Kohli (1993) stress that it is necessary to have perfect coordination of all the departments. Jangl (2015) notes three dimensions of market orientation - customer intelligence generation, intelligence dissemination & integration and responsiveness to market intelligence. Many researchers

confirmed that market orientation leads to higher business performance. According to Milichovsky (2015), performance is defined as system of monitoring individual corporate processes on way to implement the appropriate changes in organizational culture, systems and processes. Since 1990, hundreds of measurements have been realized, e. g. Narver and Slater (1990), Jaworski and Kohli (1993), Matsuno and Mentzer (1995), Gray et al. (1998), Deng and Dart (1999), Akimova (2000), Langerak (2001), Vázquez (2002), Hooley et al. (2003), Woodside (2005), Menguc et al. (2007), Sousa and Lengler (2011), Smirnova et al. (2011), Kaňovská and Tomášková (2012), Julian et al. (2014), Wilson et al. (2014). The reason for higher business performance at companies which implemented market orientation is that these companies keep track with changes in customers' needs and wishes and respond to changes accordingly (Lo et al., 2015).

An important criterion of internal marketing is the other trend of IFC perceptions. According to Rafiq and Ahmed (2000), IFC is one of the five main criteria of internal marketing; the second is employee motivation and satisfaction, the third is customer orientation and customer satisfaction, the fourth is a marketing-like approach and the fifth is implementation of specific corporate or functional strategies. Bouranta et al. (2005) realize the importance of the synthesis of market orientation and internal marketing. They show that internal marketing has a positive influence on market orientation.

Over the years, many different approaches to IFC have been developed. According to Bartošek and Tomášková (2013) it is possible to divide the approaches into four groups. (1) The quantitative view presented IFC as a category, which de-partment has to implement, e.g. Lawrence and Lorsch (1967), Jaworski and Kohli (1993), Mentzer (2004), Zahra and George (2002), Tay and Tay (2007), Ramanathan et al. (2011). (2) The qualitative view presented IFC with its own characteristics, e.g. Day and Klein (1987), Chopra and Meindl (2009). (3) The view of goals presented IFC with its impact on business performance, e.g. Cheng et al. (2010), Hingley et al. (2011). (4) The marketing view presented IFC with benefits for customers or customer satisfaction, e.g. Narver and Slater (1990), Zhao and Cavusgil (2006).

As was mentioned above, IFC intervenes in different fields of a company. Only a few of researchers perceive IFC from one point of view, especially from logistics or supply chain management, e. g. Mentzer (2004), Cheng et al. (2010), Hingley et al. (2011) or Kou and Lee (2015).

Many researchers perceive IFC as connection of management, logistics, marketing, technology, human resources, corporate culture and corporate social responsibility field.

## 3 Hypotheses

However, current literature does not involve perception of IFC in broader context especially which elements of IFC in-volves. Currently discussed main research questions connected with IFC are follows: (1) what IFC contains or how to define IFC; (2) how to categorize IFC; (3) is there any connection between marketing, logistic and management conception of IFC; and (4) what kind of barriers are connected with the implementation of IFC. Answer for the first question is that IFC is based on collaborative partner approach, which evolves and adapts all requirements to meet dynamic environment. IFC involves these elements: Cooperative Arrangements, Company Culture, Functional and Expertise, Communications, Leadership Style, Ethic and Goodwill, Organizational Structure, Coordination and Control. Second, IFC is possible to categorize into four groups (1) quantitative view - how departments have to implement IFC; (2) qualitative view – aimed on characteristics of IFC; (3) view of goals – its positive influence on business performance; and (4) marketing view - aimed on customers and their satisfactions. It was realized exploratory research for answering the third question. Relation between marketing, logistic and management was confirmed. (Bartošek and Tomášková, 2013). This paper attempts to extend information in to the fourth mentioned question. We suppose that deficiencies in expertise, leadership style and communication can negative influence total IFC.

The objective of the paper is to evaluate the effect of expertise, leadership style and communication on coordination by electrical engineering companies. These results are a part of the research aimed to IFC and service offering. Some results of the research were presented at conferences and published in conference proceedings or in journals. The research was realized among companies producing electronic equipment and electronic components in the Czech Republic. The segments are important for the Czech industry today, especially because many companies serve as subcontractors for the mechanical engineering and car industry.

As mentioned, Shapiro (1987) marks employee selection and promotion as necessary approaches to achieve IFC. Harris (1998) deals with impediments of market orientation implementation from the employees' point of view. One of the aspects are limits of employees' capabilities,

the next are for example apathy of workers, transient jobs or sorting employees. Ferraresi et al. (2012) notice that experts create and apply the knowledge. These experts are employees and partners of the companies. Thus, the following hypothesis were proposed:

H1: Expertise of workers has a positive influence on interfunctional coordination of companies.

According to Zerfass and Viertmann (2017) leadership style is one of the key of communication professionals. Harris (1998) shows that a directive leadership style has a negative influence on the implementation of market orientation. Harris and Ogbonna (2001) extent the previous research; directive leadership style has a negative influence on the implementation of market orientation and participative leadership style has a positive influence on the implementation of market orientation. Centralization and formalization are the main barriers to market orientation implementation. (Harris, 2000). Tay and Tay (2007) describe IFC as the degree of cooperation between the different functions or departments within an organization. Thus, the following hypothesis were proposed:

H2: Leadership style has a positive influence on interfunctional coordination of companies.

Brønn (2014) stress that communication executives have to improve strategic orientation. Harris (2000) stresses that communication could be one of the main barriers to the implementation of market orientation. Auh and Menguc (2005) specify communication as fundamental of IFC. They describe IFC as (1) the ability of different functional areas to accommodate disparate views, (2) to work around conflicting perspectives and (3) mental models. A similar attitude towards communication and IFC is held by Woodside (2005). According to him, IFC includes demonstrating the willingness by employees to communicate, think and work together with the aim to achieve objective effectiveness, competitive advantage and have a positive influence on business performance. Thus, the following hypothesis were proposed:

H3: Communication has a positive influence on interfunctional coordination of companies. The main words in the title start with capital letter, articles and conjunctions with lowercase letters. Please also write a shorter running title in the page footer if the main title is long.

# 4 Research Design

Results of this paper are one part of the research focused on IFC and services - detailed analysis of IFC and services and their relation. The questionnaire focused on IFC and services, and also includes two sections related to Company Performance and General Questions about the respondents. A total overview of the company's situation needs information about these parts.

This paper involves information about IFC, and for this reason the part on services is not described here. Research of IFC was realized by the use of a questionnaire in the form of the Likert scale; the range of the Likert scale was from 1 (No, I don't agree) to 5 (Yes, I agree). The part of IFC includes 22 items and it is divided into following issues: Cooperative Arrangements, Company Culture, Functional and Expertise, Communications, Leadership Style, Ethic and Goodwill, Organizational Structure, Coordination and Control. Every part involves two items; the part of coordination is divided into Coordination Activities, Fundamental Information Acquisition and Information Coordination and involves six items.

The questionnaire consisted of parts used in previous researches and was extended by some new questions. 15 items were selected from the "New Method" measured market orientation by Tomášková (2005). These items were divided into previously mentioned parts. New items added into the questionnaire are (1) two items related to Cooperative Arrangements (inspired by Mentzer 2004), (2) one item related to Company Culture (inspired by Homburg and Pflesser, 2000), and (3) four entirely new items related to Functional and Expertise, Ethic, Fundamental Information Acquisition and Information Coordination.

The questionnaire was tested for internal consistency and reliability. The level of questionnaire reliability measured by the Cronbach's alpha for whole questionnaire is 0.863.

Directors or managers of companies producing electrical equipment and electronic components in the Czech Republic were respondents of the questionnaire. The survey includes SME (from 10 – 250 employees) from the South Moravia Region in the Czech Republic. The research was focused on the following industry classifications belonging to CZ-NACE 26 (Manufacture of computer, electronic and optical products): CZ-NACE 26.1, CZ-NACE 26.3, CZ-NACE 26.51, CZ-NACE 26.6 and CZ-NACE 27 (The production of Electric Equipment): CZ-NACE 27, CZ-NACE 27.1, CZ-NACE 27.3. According to the Czech Statistical Office, the total number of these SMEs in the mentioned South Moravia Region amounts to 109 companies. All companies were asked for participation. We have received 60 full filled questionnaires. Therefore, the survey covers a representative sample (55.1 %) of the existing companies. The data were collected from February to November 2014. The database of the Czech Statistical Office and the Kompass database were used for selection of companies. Companies were contacted over the phone or by email for cooperation.

The data were analysed with the statistical software package Minitab, version 17. Descriptive statistics (minimum, maximum, mean and standard deviation) were used to describe the characteristics of the organizational performance of the sample. The Spearman coefficient test analysis was applied on the statistical data analysis.

## 5 Results

The general findings regarding the above mentioned problems are divided into three parts. The first one focuses on the general results describing the probability of positive influence of expertise and IFC. The second one shows

Table 1 Correlation analysis: Expertise and IFC

| IFC  | Expertise   |   |  |
|--|---|---|--|
|  | We focus on having experienced specialists in our team. | We focus on further education of our workers. |  |
| We gain and analyze all-important information regularly.                       | 0.422<br>0.001  | 0.618<br>0.000                                |  |
| We implement the information gained into our decisions.                        | 0.341<br>0.008  | 0.500<br>0.000                                |  |
| We take up a positive attitude toward all information advised by stakeholders. | 0.304<br>0.036  | 0.423<br>0.003                                |  |
| We check information about new resources.                                      | 0.457<br>0.000  | 0.465<br>0.000                                |  |
| We focus on the information coordination between all companies' departments.   | 0.409<br>0.002  | 0.553<br>0.000                                |  |
| We focus on information coordination between a company and its environment.    | 0.170<br>0.199  | 0.383<br>0.003                                |  |

possible impact on leadership style and IFC. The third one shows the possible impact on communication and IFC. Statistical methods were used in the first step to process the research data collected.

Table 1 indicates the results showing a correlation between the items related to expertise and six items related to the IFC.

The first value is Spearman's rank correlation: Sperman's rho, the second value is p-value. If p < 0.05 then we reject the null hypothesis (H0: items are independent), i.e. accept that the sample gives reasonable evidence to support the alternative hypothesis (HA: items are dependent).

The Table 1 shows a highly positive correlation between the expertise and IFC. Only the items "We focus on information coordination between a company and its environment" and "We focus on having experienced specialists in our team" are independent (p = 0.199). The result can mean that specialists in the company are not fundamental for information coordination between a company and its environment. The next explanation is that the main information coordination is internal and specialists in the company concentrate on internal information coordination.

A highly positive correlation can be noted especially with the items "We focus on further education of our workers." and whole items related to IFC, especially to coordination activities (p = 0.000 and p = 0.003). Further education of workers and the level of IFC in the company is evident. To sum up, 92 % of items related to IFC are positively correlated with the items related to expertise.

Table 2 indicates the results showing a correlation between the items related to leadership style and six items related to the IFC.

Table 2 shows a highly positive relation between item "We prefer teamwork and mutual cooperation." and all items related to IFC (p = 0.000, p = 0.001, p = 0.003 and p = 0.006). Leadership style which prefer teamwork and mutual cooperation is fundamental of IFC. All mentioned activities of IFC is impossible to realize without teamwork and mutual cooperation.

Contrariwise, items "Relationship between superiors and subordinates are not strict and formal." and whole items related to IFC are independent (p > 0.005). It is possible to state that formal or informal relationships between superiors and subordinates do not have any influence on IFC. IFC is influenced with teamwork and mutual cooperation, not with form of relationship between superiors and subordinates. To sum up, 50 % of items related to IFC are positively correlated with the items related to leadership style.

Table 3 indicates the results showing a correlation between the items related to communication and six items related to the IFC.

Table 3 shows a highly positive relation between both items related to communication and all items related to IFC. The level of dependent is very high (p = 0.000 is in 7 cases). A good communication is assumption of IFC and alternatively IFC is impossible to realize without communication.

Only items "We focus on information coordination between a company and its environment." and "We organize meetings about... and discuss with middle and lower level management regularly." does not show high correlation (p=0.027) nevertheless, the result show positive relation. To sum up, all items related to IFC are positively correlated with the items related to communication.

Table 2 Correlation analysis: Leadership and IFC

| IFC -   | Leadership style                           |  |  |
|---|--|--|--|
|   | We prefer teamwork and mutual cooperation. | Relationship between superiors and subordinates are not strict and formal. |  |
| We gain and analyze all-important information           | 0.548                                      | 0.003  |  |
| regularly.  | 0.000                                      | 0.984  |  |
| We implement the information gained into our decisions. | 0.660                                      | 0.112  |  |
|   | 0.000                                      | 0.399  |  |
| We take up a positive attitude toward all               | 0.482                                      | -0.046   |  |
| information advised by stakeholders.                    | 0.001                                      | 0.754  |  |
| We check information about new resources.               | 0.363                                      | 0.129  |  |
|   | 0.006                                      | 0.349  |  |
| We focus on the information coordination                | 0.640                                      | 0.041  |  |
| between all companies' departments.                     | 0.000                                      | 0.765  |  |
| We focus on information coordination between a          | 0.380                                      | -0.090   |  |
| company and its environment.                            | 0.003                                      | 0.496  |  |

Table 3 Correlation analysis: Communication and IFC

| IFC  | Communication  |                                |  |
|--|--|--------------------------------|--|
|  | We organize meetings about and discuss with middle and lower level management regularly. | We analyse remarks of workers. |  |
| We gain and analyze all-important information  | 0.507  | 0.549                          |  |
| regularly.                                     | 0.000  | 0.000                          |  |
| We implement the information gained into our   | 0.552  | 0.634                          |  |
| decisions.                                     | 0.000  | 0.000                          |  |
| We take up a positive attitude toward all      | 0.544  | 0.452                          |  |
| information advised by stakeholders.           | 0.000  | 0.001                          |  |
| We check information about new resources.      | 0.393  | 0.368                          |  |
|  | 0.003  | 0.006                          |  |
| We focus on the information coordination       | 0.540  | 0.615                          |  |
| between all companies' departments.            | 0.000  | 0.000                          |  |
| We focus on information coordination between a | 0.289  | 0.396                          |  |
| company and its environment.                   | 0.027  | 0.002                          |  |

### **6 Discussions**

IFC helps companies (1) to gain all necessary information and resources timely, (2) to share the information and (3) to coordinate internal and external activities of a company. IFC fulfils the assumption by Marešová (2010). According to her, the main factors for companies which they want to be successful in global competitions are knowledge and the ability to use the knowledge.

Firstly, the main results show a positive relationship between items related to expertise and communications in electrical engineering companies in the Czech Republic. It is apparent that a coordination of all information and activities in a company depends on the expertise and communication of workers. IFC in a company has to correspond with communication exactly, and communication is one of the main reasons for a good IFC of a company. The first hypothesis H1 "Expertise has a positive influence on coordination" and the third hypothesis H3 "Communication has a positive influence on coordination" are confirmed. That result corresponds to the outcomes by Mentzer (2004) and Woodside (2005).

Secondly, findings related to leadership style and IFC show positive correlation only with teamwork and mutual cooperation. Results show that no relationship was found between IFC and the relationship of superiors and subordinates. It follows that it can be strict and formal. The second hypothesis H2 "Leadership style has a positive influence on coordination" was no confirmed. This item is independent in relationship with items of communications and items of leadership style as well. The reason for this disconfirmation could be seen in unimportance the form of relationship between superiors and subordinates.

The essential are if the workers can cooperate and work in team and is implemented ethical leadership. Current researches show that ethical leadership improves work environment (Lašáková et al., 2017).

Ethical leadership is a highly relevant and up-to-date topic in management studies because it represents a genuine key to improved work environment. Furthermore, current researches show that.

It is obvious, that all three connectedness which are expertise, leadership style and communication show the lowest level of dependency at the IFC item measuring information coordination between a company and its environment. The reason can be that the fundamental of IFC is coordination in a company.

The novelty of the paper is in determination some possible connectedness of IFC, concretely the correlation among experts, leadership style and communications with IFC of a company. The results of the paper can assist companies in their attitude towards IFC, by reason that companies can better implement IFC. However, it is difficult to prepare some general recommendation for all types of companies. Each company is unique; it produces its own specific product, it has specific conditions of business and specific relationship with their stakeholders. The relationship of stakeholders with stakeholders are not same. The abilities of influence and significance for decision process in a company is not identical as well (Juscius and Snieska, 2008).

The main limitation of the research is the small number of respondents who have sent the questionnaire. Next limitation is connected with the type of enterprises participating in the research. Only small and medium manufacturers were included in the research. According to Kozlowski

and Matejun (2016), SMEs are limited with their use of advanced IT and organizational support, use of benefits of inter-organizational cooperation allowing an investment-free expansion of busi-ness scope, static supervision concentrated in the owner, the limited scope of project evaluation, and limited retention of knowledge generated in project implementation. Third limitation is based on industry classed in research. It was only electrical engineering companies from the South Moravia Region in the Czech Republic, the other type of industries and regions was not included. Nevertheless, we hope that the results can be interesting for theory and praxis.

## 7 Conclusion

One of the goals of companies is to be successful in the long term on the markets. Managers attempt to find ways of gaining customers and ways of keeping them. It is necessary to know what customers want, offer the proper product and to always be connected with customers. All these activities have to be well coordinated. Expertise and communications are the most important for good IFC of

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a company. In other words, IFC is based on (1) further education of our workers, (2) preference of teamwork and mutual cooperation, (3) regular discussion with middle and low level managers and (4) analysis remarks of workers. Beyond, strict and formal relationship between superiors and subordinates are not influence on IFC.

IFC helps companies to gain all necessary information and resources timely, to share the information and to coordinate internal and external activities of a company. Results of this research can help to better understand the connectedness of IFC for theory as well as for practical implication. This paper offers opportunities for improvement in the field of IFC for companies and it allows the increase of higher level of business performance.

This paper very briefly analyses the main results from the research describing connectedness of IFC. This aspect is the limitation of this paper. The next piece of research must analyse wider connectedness of expertise and communications. It may be very interesting to know the possible differences in approach towards IFC between large and small and medium companies.

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