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# The Role of Employee Relations in the Level of Internal Integration between Logistics and Marketing Functions: the Case of Slovenian Retail Companies

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Negative employee relations in companies are a ubiquitous phenomenon which, on one hand, may result in dissatisfaction and inefficiency of employees and, on the other hand, disappointing work results. The basis of research work for the following paper forms a definition of internal integration and its level as well as connection with the level of efficiency of inter-functional relations. The empirical part of the research paper examines the influence positive relations between functions may have on the level of internal integration. More specifically, the analysis focuses on employee relations from logistics and marketing functions. The research is based on the quantitative analysis of data acquired from a survey carried out at Slovenian retail companies.

**Keywords:** Logistics, marketing, internal integration, inter-functional relations

## 1 Introduction

Company success can be measured by tangible factors (financial: i.e. estimation of profit, growth, market share) and non tangible factors (not financial: i.e. estimation of customers satisfaction, notified efficiency of relations). Successful companies differ from less successful ones in the way they manage their human resources, e.g. staff planning, staffing, staff development, staff training, wages policy, and maintaining positive relations.

Recent studies have emphasized the need for an increased level of inter-functional integration between logistics and marketing functions, maintaining that it contributes to the company performance. Some research results (Ellinger, 1997) indicated a strong positive linkage from the internal integration to firm performance, with perceived effectiveness of inter-functional relations and distribution service performance serving as mediating influences. Ellinger has also found that higher levels of inter-functional integration between a firm's marketing and logistics departments improves distribution service performance, and that higher levels of distribution service performance favourably predict firm performance (Ellinger, 1997).

Scholars who study organizations and their operations suggest that interdependence is a "catalyst" for inter-functional integration. (Brown, 1983; Pfefer and Salancik, 1978). Moreover, theory of interdependence stipulates that relations between two working units can be described as individual or collective and as behaviour of individuals or of a group.

Employee relations within a company as well as the relations among particular functions are indirectly related to company success, i.e. through the impact positive relations may have on the level of internal integration, which evidently influences the level of success of a company.

In order to examine internal integration and one of its aspects, e.g. collaboration and collaborative behaviour, one needs to acknowledge and consider the importance of internal relations. Creation and maintenance of internal relations among the departments, functions and employees in a company is necessary in order to improve company operation and its employees (Pervaiz and Mohammed, 2003). The concept "employees as consumers" was already introduced by Berry (1981). This concept views employees as "internal consumers" who want, similarly to "external consumers", their needs and wishes to be met. If employee satisfaction is achieved in both functions, a higher level of collaborative behaviour may

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be achieved. How positive relations in a company may be achieved has already been extensively discussed by Prevaiz and Mohammed (2003) who have identified understanding, confidence, trust and loyalty to be the most important factors contributing to their formation.

## 2 Objectives and presumptions

The main aim of the paper is to examine inter-functional integration of logistics and marketing functions in a company and its dependency on success or efficiency of employee relations from the two functions. More specifically, the objective is to study how the level of efficiency of inter-functional relations influences the level of integration of logistics and marketing functions. Based on data on relations between employees from the logistics function and employees from the marketing function, relations between employees were investigated. Data was collected from Slovenian B2C (business-to-consumer) companies. This forms the basis for understanding the existing level of integration of the two functions and for examining the role successful inter-functional relations may have on the level of integration. Hence, we are trying to confirm the assumption concerning the connection between the level of success or efficiency of inter-functional relations and the level of integration of logistics and marketing functions. The basic research hypothesis is: **"the level of internal integration of logistics and marketing functions in a company depends on the level of efficiency of inter-functional relations of all employees in both functions"[1].**

Using statistical data analysis, i.e. bivariate correlation of both variables, the hypothesis was confirmed. Using the co-relational system the connectivity or non-connectivity of variables will be tested. However, in order to determine the mode of connectivity regression analysis will be applied.

## 3 Integration of logistics and marketing functions

Integration has been extensively researched in different business contexts including management, strategy, organizational theory, production management and information systems (Barki, Pinsonncault, 2005). Conceptual roots of integration can be found in Fayol's (1949) idea of cooperation and coordination as well as in the works of Lawrence and Lorsch (1967) who defined integration as a process of achieving unity of effort among different sub-systems in order to accomplish organizational tasks.

Integration occurs when specialized functions or departments in a company are inter-related and are implementing processes and proceedings that allow interaction (Brown, 1983).

According to Barki and Pinsonncault (2005), the categorization of integration of organizational components can be defined along different processes and activities of the supply chain in the following way:

- Internal – operational integration;
- Internal – functional integration;
- External – operational "downstream";
- External – operational "upstream";
- External – operational – lateral;
- External – functional.

Internal integration may be investigated within the scope of the company. It aims to eliminate traditional silo functions and emphasize better coordination among functional fields.

In literature, inter-functional integration is characterized as interaction or as an activity of communication (Griffin, Hauser, 1992) in a sense that more meetings and more informational streams among functional departments lead to a more effective integration. Interactional philosophy for management of inter-functional relations presumably derives from a philosophy, which is based on many business theories and managerial procedures (Sheth, Parvatiyar, 1993). Managers strictly define interactional philosophy as a system of contacts with other functions and departments in form of transactions. Transactional aspect of integration regards departments as entities depending on themselves and which, in a way, compete for the resources in the company; contacts between departments may be regarded as temporary and present financial loss. Due to this competition and expenses, managers view the process of meetings and transfer of information as a system of negotiation, in which each department (or function) aims to profit in as much as possible from a meeting or an exchange of information.

Further literature characterizes integration as collaboration (Lawrence, Lorsch, 1967; Lorsch, 1965) which stimulates team work, sharing of resources and achievements of mutual objectives among complementary functions; all of them contribute to a more effective integration.

Third group of literature, however, characterizes integration as a mixture of interaction and collaboration (Gupta et al. 1985; Gupta et al. 1986; Song, Parry, 1992, Song, Parry 1993). This kind of mixture of integration is in a way a very attractive philosophy as it defines the inter-functional or inter-departmental integration as a multi-dimensional approach.

Souder (1977) defined integration as the condition of high level divided values, mutual objectives and collaborative behaviour. Lorsch (1965) on the other hand, defined it as a process of mutual effort invested in different sub-systems with the objective to achieve optimally performed tasks in the company.

According to some, logistics is considered to be the other half of marketing. The basis for this viewpoint is that the physical distribution is responsible for physical transportation and storage of goods and as such plays an important role in product

1 In this case study, all employees are top management employees from both functions, i.e. directors and vice-directors of the functional fields, heads of research, counsellors, managers and clerks. Other employees i.e. warehouse staff, drivers etc. have not been considered.

distribution. In some cases the physical distribution and order fulfilment play a key role in product sale (Coyle et al., 2003).

Different authors interpret integration differently and therefore the integration of logistics and marketing functions may be defined as:

> *[…] a process of interaction and collaboration in which logistics and marketing functions interact in a co-operative way to achieve mutually acceptable results for the company.*

Nowadays, the logistics and marketing functions are, to a certain level, already integrated in various companies; however, according to Bowersoxu et al. (2008) there are two catalysts or initiators for classification of logistics in the system of key strategic sources. These two catalysts are *time* and *competition,* which are based on quality, efficiency and success.

It is difficult to identify how integration affects company performance because the definitions of various authors are not always uniform. The impact of cross-functional integration on the company's success is often measured in terms of subjective factors rather than in financial terms.

Recently, researchers have emphasized the need for an increased level of inter-functional collaboration between logistics and marketing, given that it contributes to company success. (Kahn & Mentzer, 1998, Ellinger, Daugherty, & Scott, 2000, Morash et al., 1997, Murphy & Poist, 1996). Bowersox, Closs, and Stank (2000) assert that increasing the level integration between logistics and marketing functions is of key importance for contemporary companies. The so called contingency theory is based on success or effectiveness of the company and may only occur when adjustment between structural organization of a company and its circumstances is achieved (Burns & Stalker, 1961, Thompson, 1976).

Monaert et.al. (1994) identified a positive link between the integration of data interchange and success of the company, whereas Gupta, Ray and Wolemon (1985), Ruekart and Walker (1987) identified a lack of inter-functional contacts or integration as one of the more important reasons for company's poor performance.

## 4 Employee relations as a factor of internal integration

Employee relations are very important for understanding the competence of implementation of activities and tasks between logistics and marketing functions.

Working relations between employees from different functions of the same company present a crucial factor for company success (Daugherty, Chen, Mattioda and Grawe, 2009). Employees from different functions have the potential and the competences which need to be divided and subsequently merged in order to contribute to the success of the company. As estimated by Daugherty et al. (2009) information sharing is necessary for successful external and internal integration which in fact includes coordinative or collaborative aspects.

Holmlund (2004) defines relations as a dynamic system, given that they continuously develop and change over time. Time is inherent and of key importance for relations and as such presents an important aspect in conceptualization and empirical research of relations.

Anderson et al. (1994) argue that deconstructed companies still appear. Their main characteristic is orientation toward functional subsystems of added value which is traditionally implemented in the frame of the company, relaying on coordinated relations with other companies. Such companies are cannot operate within a company, let alone outside of the company. Therefore, good collaborative relations between employees which Bunduchi (2008) defines as relations and which include economic and social aspects cannot exist. From the latter, the social exchange results, which forms the basis for understanding collaborative relations (Lambe, Wittmann and Speakman; Morgan and Hunt, 1994).

In order to facilitate development of relations between two parties, mutual objectives and beliefs of some sort must exist that create added value for all involved parties (Blois, 2006).

Employee relations have a great influence on the success of the entire company. Support for this assumption has been found in different researches which revealed the importance successful collaboration among scientists, engineers, managers and other employees has for the success of the entire company. Ahmed and Rafiq (2003) assert that creation and reconciliation of internal relations among departments, functions and employees in a company are necessary for the improvement of successful operations in a company as well as for successful operation of employees.

Furthermore, Ahmed and Rafiq (2003) argue that good relations in a company can be achieved through understanding and confidentiality, trust and loyalty. Trust is critical for survival of the company as it determines basic components of social relations which are essential for the management of a company (Ariño, Torre and Smith Ring, 2005).

Efficient marketing is based on success and efficiency of other functional fields in a company, i.e. production, logistics, research and development and finances (Lynch and Whicker, 2008). Functional narrow-mindedness and lack of understanding of employees may frequently lead to conflict (Shipley, 1994). Lack of understanding between employees from the logistics function and employees from the marketing function can, therefore, hinder the efficiency of a company (Christopher, 1996; Murphy and Poist, 1996).

Organizational culture presents the foundation of relations and can be defined as a sample of mutual suppositions (on the most profound level), value (what can be) and trust, which help individuals to understand the organization and therefore influence the success of the company (Gordon, 1991). Disposition or climate is connected to organizational culture although it represents a different concept. Deshpande and Webster (1989) defined the disposition as comprehension of individuals in terms of how the company meets their expectations.

Good interacting relations signify efficient communication and vice versa. Every work demands an investment of efforts. However, positive relations lead to trust and work is less difficult to accomplish. Without communication there would be no relations, no intimacy, no cooperation, no compassion, no social life, no public life, let alone any media activity (Ule, 2005).

Communication is a basic human need and without it trust cannot created. Moreover, as maintained by Schweer and Thies (2003), trust has an essential role in the process of communication because it improves quality. Trust is, therefore, a condition as well as a consequence of an efficient two-way communication between the management and the employees. Free flow of communication in all directions and access to information give employees the impression of being informed about what is going on in the company, that there are no secrets which would make them feel insecure and stimulate distrust. Internal communication in a company enables above all, better work performance and a more consistent accomplishment of goals for the employees, the realization of business goals, policy and strategy, as well as the implementation of potential changes for the management.

Bove and Johnson (2001) argue that power and quality of interacting relations can be drafted as a higher level of construction, because the higher the level of trust and loyalty, the higher the level and quality of relations.

For successfully established and maintained relations among internal and external cooperatives, the professional knowledge is needed which is an important factor of successful collaboration (Ritter, Wilkinson and Johnston, 2004). With this the interdependence of good relations and collaborative aspect is reconfirmed.

## 5 Research methodology

Methodology is based on the basic definition of the existing level of internal integration, which is further based on the interaction and the collaborative aspect. The basic independent variables of the existing level of internal integration in analyzed companies are also based on some recent studies.

Determination of arithmetic means of the questionnaire results which define the existing level of internal integration will represent the foundation for further research. What follows is the analysis of data and analysis of independent variables which refer to the efficiency of inter-functional relations within the analyzed companies. These results form the foundation for the assessment of connection between the level of efficiency on inter-functional relations and the level of internal integration. The assessment of this connection will help us confirm or reject the set hypothesis.

Furthermore, research will be conducted using analysis of findings and independent variables which refer to the search

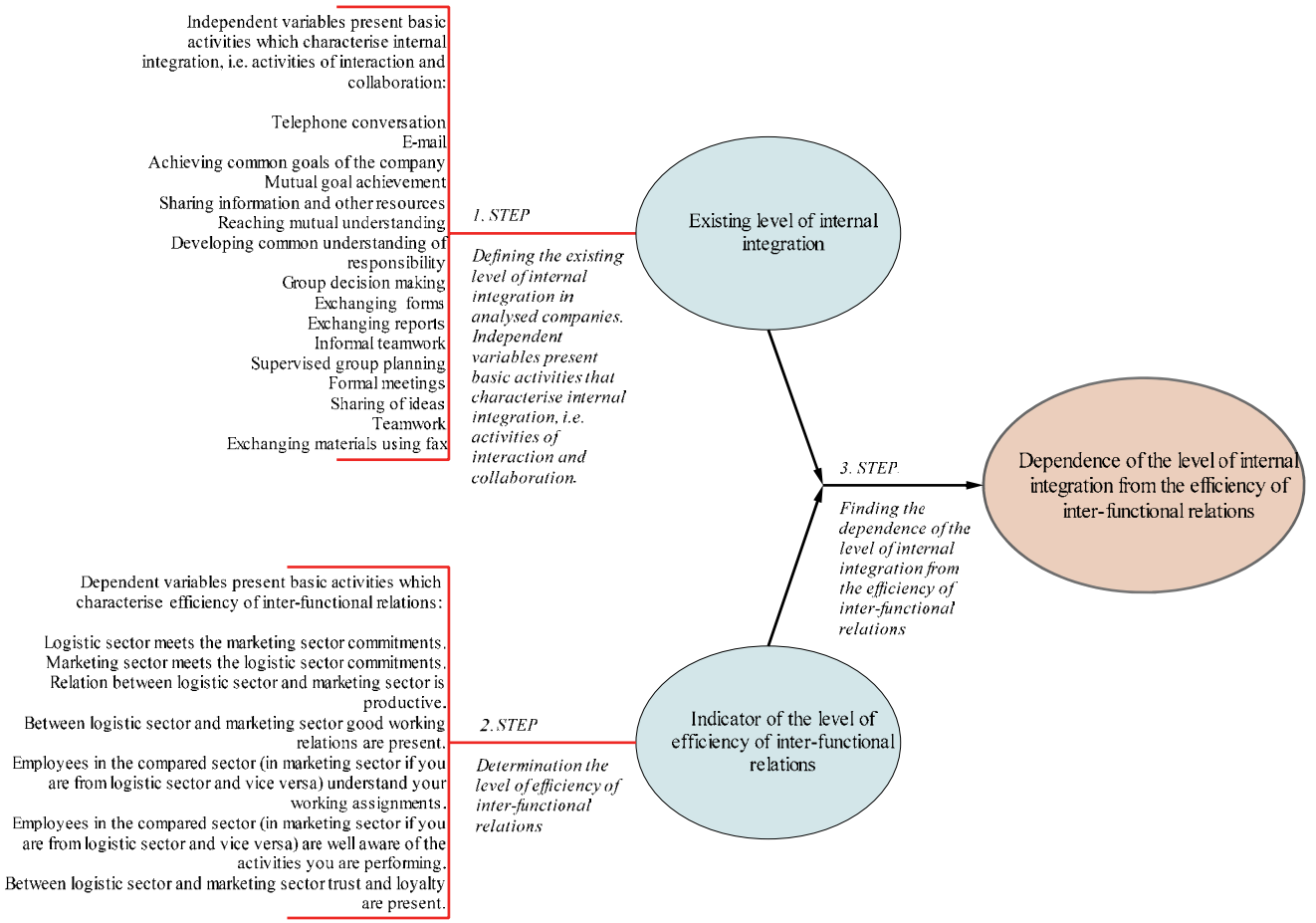


*Figure 1: Research model*

for the existing level of relations among employees in analysed companies. These results will form the basis for identifying the link between the level of relations among employees and the level of internal integration.

## Sampling of selected companies

Companies under investigation are *Retail companies excluding motor vehicle retailers*.

The sample of companies was based on the predefined field or area, to which companies belong, as in our case was *Retail companies excluding motor vehicle retailers*. This area is defined as such by the Slovenian Chamber of Commerce, which served as a primary source of data.

A large company is a company which meets two or more criteria: the average number of employees in a business year is over 250; net sales amount to more than 29.200.000 Euro, and the value of assets exceeds 14.600.000 Euro. This area was defined as such by the Chamber of Commerce of Slovenia and presents the primary source of information on companies included in the research. The entire population of large companies which fall under *Retail companies excluding motor vehicle retailers* was included in the survey. The data on these companies were acquired from the Slovenian Chamber of Commerce. On 2 April 2009, there were 33 such companies in Slovenia.

## On the questionnaire

Prior to designing the questionnaire, relevant opinions and facts had to be defined. For research purposes, a partially structured questionnaire was selected, which includes closed-type questions, followed by open questions, to which the interviewees provided descriptive answers.

## Methodology regarding the implementation of survey

On 5 June 2009, questionnaires were distributed via snail mail to all 33 large Slovenian companies, which are defined as "retail companies, excluding motor vehicle retailers". Each company received 5 questionnaires including 5 envelopes with post stamps. This way, a complete anonymity of the company as well as the anonymity of all participants was assured. In the letter of correspondence managers of both sectors were

*Table 1: Degree of mutual activities with the compared sector; level of internal integration (N=26)*

| Activity | Logistic sector | Marketing sector | Total |
|---|---|---|---|
| Telephone conversation | 100 % | 100 % | 100 % |
| E-mail | 100 % | 100 % | 100 % |
| Achieving mutual goals of the company | 93 % | 100 % | 96 % |
| Mutual goal achievement | 86 % | 100 % | 92 % |
| Sharing information and other resources | 79 % | 100 % | 88 % |
| Reaching mutual understanding | 71 % | 100 % | 85 % |
| Developing common understanding of responsibility | 71 % | 100 % | 85 % |
| Group decision making | 71 % | 100 % | 85 % |
| Exchanging forms | 64 % | 100 % | 81 % |
| Exchanging reports | 64 % | 100 % | 81 % |
| Informal teamwork | 71 % | 92 % | 81 % |
| Supervised group planning | 64 % | 100 % | 81 % |
| Formal meetings | 64 % | 92 % | 77 % |
| Sharing of ideas | 64 % | 83 % | 73 % |
| Teamwork | 50 % | 82 % | 64 % |
| Exchanging materials using fax | 57 % | 60 % | 58 % |
| ARITHMETIC MEAN OF ALL ACTIVITIES | 73 % | 95 % | 83 |
| Level index of internal integration [0..100] | 73 | 95 | 83 |

*Note:*
*The scale from 0 to 100 or from 0 % to 100 %, whereby 100 % or 100 means that all respondents believe that a particular activity is implemented at least once a year and whereby 0 or 0 % means that all interviewees believe that a particular activity is not implemented at all.*

asked to fill out the questionnaires, and to distribute them to other employees, especially representatives, heads of projects, clerks, consultants etc.

By 3 August 2009, 26 filled out questionnaires had been returned, 14 from the logistics sector and 12 from the marketing sector.

### Data analysis

Data analysis was conducted using Microsoft Excel and Statistical Package for the Social Sciences (SPSS) for Windows with.

## 6 Research findings

In the following analysis the operationalization and the results of each of the terms or concepts was presented that are referred to in the hypothesis. Then, the hypothesis entitled: "The level of internal integration of logistics and marketing functions in the company depends on the level of efficiency of inter-functional relations of all employees in both functional fields".

### 6.1 Analysis of existing level of internal integration

In order to determine the connection between the level of internal integration and efficiency of inter-functional relations in the framework of logistics and marketing functions the existing level of internal integration in the analyzed companies needs to be defined. The level of internal integration was operationalized using a set of questions in which various activities were set out (Table 1), whereby the respondents rated the degree of frequency of mutual cooperation with the compared sectors, which means that the respondents from the marketing sector rated the cooperation between their sector and the logistics sector and vice versa – the respondents from the logistics sector rated the cooperation of their sector and the marketing sector.

The said set of questions featured 16 different activities such as formal meetings, telephone conversations, e-mails etc. (Table 1), for which the interviewees rated the frequency of operations or implementation by choosing one of the following answers: daily, weekly, monthly, yearly or never.

Using bivariate analysis to examine the influence of one or more independent variables on the dependent variables of this set of statements compared to other questions, we found out that the interpretation of results is most plausible, if all possible answers are dichotomised or consolidated into two categories such as: never (0) or at least once a year or more (1). Parts of dichotomised answers are presented in Table 1, whereby the results are shown separately for the interviewees from the logistic sector and the interviewees from the marketing sector.

Activities from Table 1 measure the level of internal integration directly. For the majority of activities, percentages are relatively high as they present a percentage of the category "at

*Table 2: Efficiency of inter-sectorial (inter-functional relations)*

| Statement | Logistics sector | Marketing sector | Both sectors all together | Abs. difference |
|---|---|---|---|---|
| Logistics sector meets marketing sector commitments. | 2.8 | 4.0 | 3.4 | 1.3 |
| Marketing sector meets logistics sector commitments. | 3.9 | 4.5 | 4.2 | 0.6 |
| Relations between logistics and marketing sectors are productive. | 3.2 | 3.8 | 3.5 | 0.5 |
| Good working relations prevail between logistics and marketing sectors. | 4.4 | 3.9 | 4.2 | 0.5 |
| Employees from the other sector (from the marketing sector if one is from the logistics sector and vice versa) understand our tasks. | 3.1 | 2.9 | 3.0 | 0.2 |
| Employees from the orther sector (in marketing sector if one is from logistics sector and vice versa) are aware of the activities we are performing. | 3.4 | 3.3 | 3.3 | 0.1 |
| Between logistics and marketing sectors trust and loyalty are present. | 3.7 | 3.2 | 3.4 | 0.5 |
| ARITHMETICAL MEANS OF ALL ACTIVITIES | 3.5 | 3.6 | 3.6 | |
| Indicator of the level of efficiency of inter-functional relations [0..100] | 69.4 | 74.4 | 71.9 | |

*Note:*
*The scale from 0 to 100 or from 0 % to 100 %, whereby 100 % or 100 means that all respondents indicated that they "strongly agree" with a particular statement, whereas 0 or 0 % means that all respondents "strongly disagree" with a particular statement.*

least once a year" or "frequently", a relatively long period of time. The interviewees from the marketing sector responded that 11 out of 16 activities (100 %) are carried out at least once a year or more. The interviewees from the logistics sector, on the other hand, stated that just 2 out of 16 activities are carried out at least once a year or more. These activities comprise most frequently used communication activities such as telephone conversations and e-mails. However, activities carried out least frequently were faxing (58 %) and teamwork (64 %) if we compare the shares based on the sector.

The index of the level of internal integration is more interesting than the implementation of particular activities. The latter is operationalized as a common relative sum of dichotomy variables or activities presented in previous table (Table 1) and amounts to 83. The bottom line from Table 1 clearly shows that the level of internal integration for employees from the marketing sector is somewhat higher (95) compared to employees from the logistics sector (73).

## 6.2 Relations analysis in detail

To determine the link between the level of efficiency of inter-functional relations and the level of internal relations, the questionnaire also contained questions to test the set hypothesis.

Statements included in this question refer to efficiency of relations as defined by Ellinger et al. (2002) and to their reasonable expansion on understanding factors which influence the efficiency of relations as well.

Question 1 from the questionnaire refers to efficiency of inter-functional relations. The aforementioned questions were answered by the employees from marketing as well as by the employees from the logistics department.

In Table 2, findings that referred to expected efficiency of inter-functional relations and represent arithmetical means of answers are presented. The respondents indicated on the scale from 1 to 5 whether they "strongly disagree" (1) or "strongly agree" (5) with a particular statement.

Statements from Table 2 are indirectly measuring the efficiency of inter-functional relations.

More interesting than the implementation of each individual activity is the level of efficiency of inter-functional relations, from the substantive aspect (or aspect of our statement). The latter conception is operationalized as total sum of variables or statements presented in Table 2, and amounts to 71.9.

Findings presented in Table 2 further reveal that the biggest difference between the sectors lies in the average estimation of the answer *marketing sector meets the logistics sector commitments.* On average, the respondents from the marketing sector relatively agree with the statement. Their average estimation or the arithmetical mean amounts to 4.0, on the scale from 1 to 5, in which 1 indicates "strongly disagree" and 5 indicates "strongly agree". On average, respondents from the logistics sector answered the same question differently, i.e. they either disagreed with the statement or they agreed only partly. Their average estimation amounts to 2.8 which is lower than the medium grade 3 on a scale from 1 to 5 and shows that their opinion of the statement is closer to "disagree" than to "agree". Regarding other statements, the differences between the marketing sector and logistics sector are not so significant. The slightest difference between both sectors is evident for the statement *employees from the other sector understand our work assignments.* The average estimation from both sectors is just above "the medium grade", which is between 3.3 and 3.4, which means the difference of 0.1 point, on the scale from 1 to 5. As for the statement *employees from the other sector are well aware of the activities we are performing* the findings were similar as employees from both sectors rated the statement close to medium (2.9 and 3.1) in which the difference is 0.2 point, on the scale from 1 to 5. For other statements, differences between sectors were slightly higher, namely 0.5 or 0.5 point, on the scale from 1 to 5. However, statistical significance concerning the differences between both sectors considers only one statement, namely *marketing sector meets the logistics sector commitments*. Only for this statement[2] it is possible to refer to the difference in population as only regarding this statement the statistical significance of the exact Mann-Whitney U test[3] is lower than the limit value 0.05 (0.008).

As shown in Table 3, and taking into account all other statements except the statement "The marketing sector carries out the tasks required by the logistics sector", the statistical significance is larger than the limit value 0.05 which means that the differences for these statements regarding the size of the sample are as large as to be able to certainly draw any reliable conclusions from the sample onto the population, or that the answers provided by the marketing and logistics sector differ may be referred to the population. That the answers from the marketing sector differ from those from the logistics sector is possible only in the statement *marketing sector meets the logistics sector commitments.*

Realiability of the questionnaire was tested using the Cronbach alfa test to investigate the correlation between statements within specific sets of questions. The Cronbach alpha test is the most common measure of internal consistency, i.e. "reliability". This coefficient may vary on a scale from 0 to 1, the findings are reliable when the value of coefficient above 0.6. The data analysis revealed that Cronbach's alpha is 0.743, which indicates a high level of internal consistency for our scale with this specific sample.

2 In the statement *marketing sector meets the logistics sector commitments* we may argue that the differences are on the limit of statistical significance as the statistical significance (sig.) of exact Mann-Whitney U test is very close to the limit value 0.05 or it is 0.066. However, it exceeds the limit value and from the formal viewpoint we cannot certainly infer from sample to population, hence, in this case there are differences between the marketing department and logistics department.

3 This test was selected because the distribution of variables of question 1 are not normal (according to Gauss) and because it includes the option exact test which is suitable for small samples (less than 30 respondents).

*Table 3: Exact Mann-Whitney U test for the differences (marketing/logistics) among answers on question 1*

| | Logistics sector meets marketing sector commitments. | Marketing sector meets logistics sector commitments. | Relations between logistics and marketing sector are productive. | Between logistics and marketing sector good working relations are present. | Employees from the other sector understand our working assignments. | Employees from the other sector are well aware of the activities we are performing. | Between logistics and marketing sector trust and loyalty are present. |
|---|---|---|---|---|---|---|---|
| Mann-Whitney U test | 50.000 | 29.000 | 67.500 | 64.000 | 76.500 | 74.000 | 69.000 |
| Exact statistical characteristic (Exact Sig.) | .066 | .008 | .412 | .292 | .691 | .658 | .531 |

## 6.3 Level of internal integration and its dependence on efficiency of relations

Next, a detailed analysis of the link between the level of internal integration and the level of relations efficiency is presented in which we are testing the hypothesis that the higher the level of relations efficiency, the higher the level of internal integration between the logistics and the marketing function.

Both variables are normally distributed; therefore, the Pearson's correlation coefficient can be used for testing (Figure 2).

Using bivariate correlation, the statistical analysis of the variable *indicator of efficiency of inter-functional relations* and the variable *the level of internal integration* reveals the connection between both variables, as Pearson's correlation coefficient has the value of 0.571 and is statistically significant, e.g. statistical significance of the test (sig. = 0.002) is under the limit value of 0.050.

The level of internal integration of logistics and marketing function in a company is therefore dependent on the level of efficiency of inter-functional relations of all employees in both functional fields.

Correlation coefficient shows that the connection between analyzed variables exists, however it does not show in what way the variables are connected. This can be ascertained using regression analysis by building models which can be used for forecasting or for description of connections between dependent variables and the number of independent variables.

Suppose that the variables are connected linearly, it is then possible, based on regression analysis, to ascertain the regression model which, in case of linear connection, can be defined as $y = a + b \times x$, where *a* is a constant of the model and *b* a directional coefficient of the straight line. This kind of regression analysis gives the already known coefficient of correlation which is 0.571 (Pearson's correlation coefficient) and coefficient of determination which is 0.327. Linear regression model as a whole is statistically characteristic (F=11.638, sig

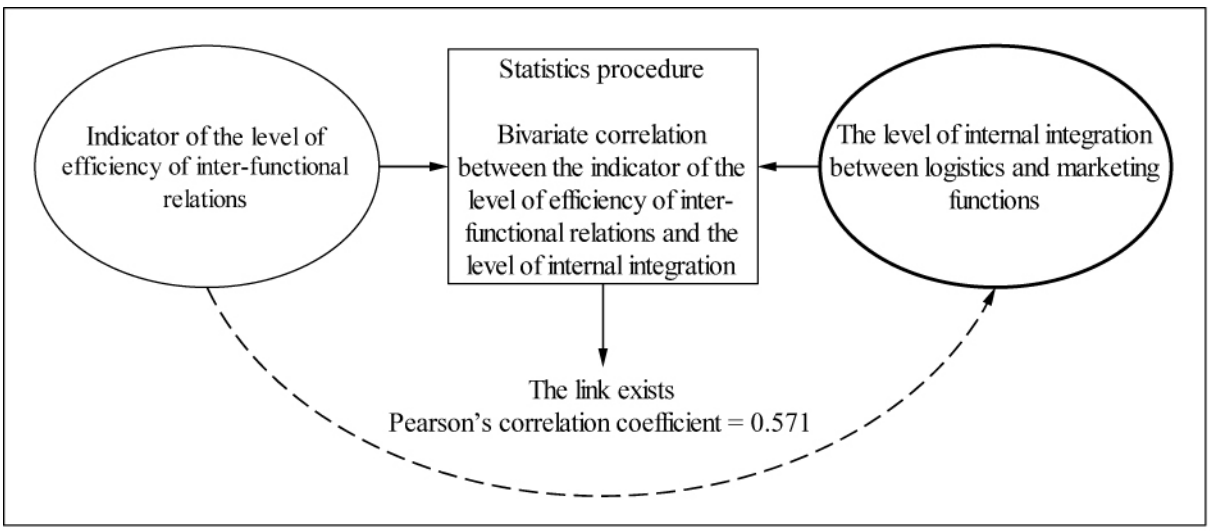


*Figure 2: Dependence of the level of internal integration from the efficiency of inter-functional relations*

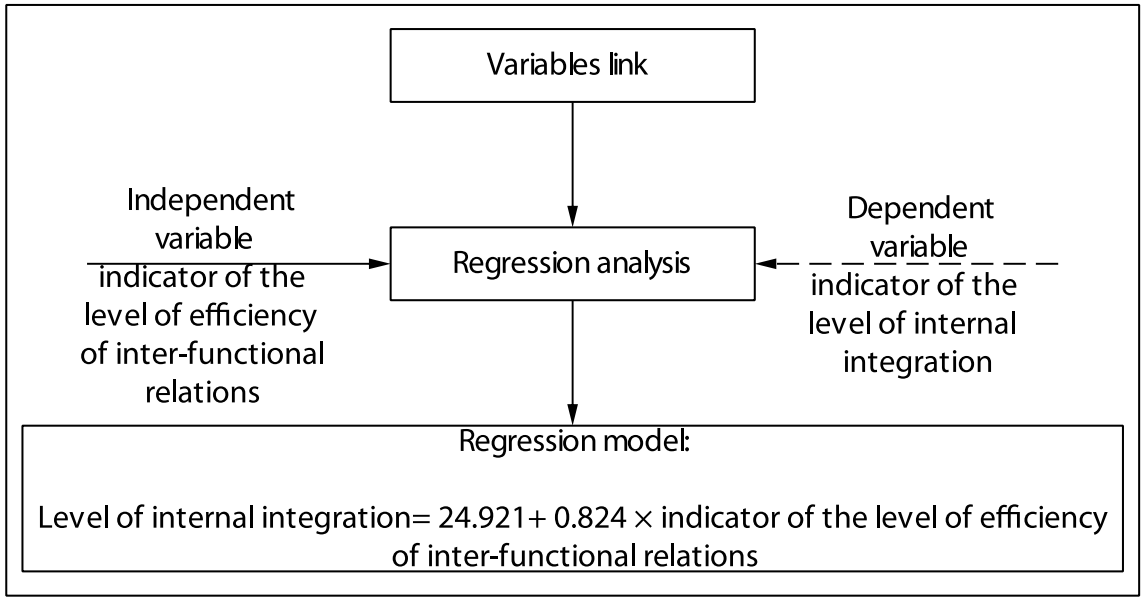


*Figure 3: Regression model of connection between the actual implementation of activities and the level of internal integration*

F.=0.002) and the level of internal integration explains 30 % of variability of the indicator of efficiency of inter-functional relations (coefficient of determination $R^2$=0.298), directional coefficient of the regression straight line B is 0.824 in which its plus sign shows on positive connection between the variables, while its value shows for how many units, on average, changes the value of independent variable of the level of internal integration, if the value of efficiency of inter-functional relations raises for one unit. The constant of the model is 24.215 and represents the value of the level of internal integration, if the value of efficiency of inter-functional relations is 0. Figure 3 represents described regression model.

Based on regression analysis results we can present a regression model which in case of linear connection represents dependence of dependent variable from independent variable:

$$\text{level of internal integration} = 24.921 + 0.824 \times \text{efficiency of inter-functional relations}$$

By explaining the connection between the efficiency or success of inter-functional relations and the level of internal integration we may confirm that the phenomena are connected.

# 7 Conclusion

The defined problem and goals of the research were stated in the introductory part of the paper, i.e. "the level of internal integration of logistics and marketing function in a company depends on the level of efficiency of inter-functional relations of all employees in both functional fields".

In the paper, we endeavoured to demonstrate the connection between the level of internal integration and the level of efficiency of inter-functional relations of employees.

For the demonstration we used Pearson's correlation coefficient as both variables were normally distributed. The result showed a connection between both variables as it had a value of 0.571 and determines statistical significance. Furthermore, using regression analysis we examined the mode of connection between the variables and identified linear connection.

Therefore, we may conclude that the level of internal integration between the logistics and the marketing function depends on the level of efficient inter-functional relations.

## Further research

Although the paper mainly focused on internal integration between logistics and marketing function many questions still remain unanswered. Further research can be directed either at a wider discussion and determination of common characteristics of relations efficiency and the level of internal integration regardless of functional fields or at the more narrow discussion of the phenomenon researched in this paper. By this we mean a wider sample of respondents.

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**Odnosi med zaposlenimi v podjetju kot dejavnik nivoja notranje integracije logistične in marketinške funkcije: primer slovenskih trgovskih podjetij**

Neprimerni nivo odnosov med zaposlenimi v podjetjih je pogost pojav, kar ima na eni strani za nezadovoljstvo in neučinkovitost zaposlenih na drugi strani pa lahko povzroči neskladja med rezultati dela. Opredelitev notranje integracije in njenega nivoja ter povezava z nivojem učinkovitosti medfunkcijskih odnosov je osnova raziskovalnemu delu tega članka.
V kvantitativnem raziskovalnem delu se preučuje kako učinkoviti odnosi med funkcijama vplivajo na nivo notranje integracije med logistično in marketinško funkcijo. Raziskovanje temelji na kvantitativni analizi rezultatov vprašalnika, ki je bil izveden v slovenskih trgovskih podjetjih.

**Ključne besede:** Logistika, marketing, notranja integracija, med-funkcijski odnosi.