Motivation of Employees for Creativity as a Form of Support to Manage Innovation Processes in Transportation-Logistics Companies

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Summary

The paper´s objective is to analyse a certain influence of using creative potential of employees on the innovation processes management in the transportation-logistics companies. An important part is the presentation of partial results of a survey (conducted between 2013 and 2016) regarding particular development of orientation towards the level of motivation and support of employee creativity in Slovak companies with over 50 employees. These results revealed significant deficiencies in the employees' motivation to be creative and in the extent of their involvement in innovations. In the process of creating an appropriate environment, a particular point evaluation is then provided recognizing the actual level of the organizations' orientation towards the discussed issue. In order to identify certain barriers to improve the innovation processes, a case study was also used to classify the current state of the three selected transportation-logistics companies operating in the Slovak Republic.

KEY WORDS

motivation
creativity
innovation
processes

1. INTRODUCTION

Globalization and its impact, particularly on the part of the European Union, is characterized by the emergence of a single market (with its free movement of goods and persons, free space for providing services and free movement of capital) [1], all leading to a much greater competition for businesses [2-4]. To prove successful in such an environment (with the increasingly greater competition related to strong turbulence) has become challenging for them [5-9].

Competitiveness of companies is primarily influenced by the environment (formed by economic policy of the individual EU states), and this is where the Slovak Republic is lagging behind considerably. However, as stated by the Business Alliance of Slovakia [10] referring to *the Global Competitiveness Report 2017-2018*, published by the World Economic Forum (WEF), a positive trend has emerged. As of this year, Slovakia registered a significant improvement in the competitiveness ranking, i.e. to the 59th place. Despite this positive change, it still remains one of the worst rated countries in the EU, with the most critical areas of the business environment being the quality of public institutions and the support of talented people.

Striving to boost the competitiveness and innovativeness of businesses, the Government of the Slovak Republic proposed a tax relief of 25% from the income tax in respect to the expenses on research and development in 2015. In that year, however, companies only deducted a relief worth of € 9.2 million, and in 2016, the amount even decreased by € 2 million. Also due to this fact, the Ministry of Finance submitted a new proposal, approved by the government in mid-August 2017, according to which companies will be able to deduct all research and development expenses from 2018 [11].

As regards innovations, a specific focus on them should be firmly integrated into managerial work. Since innovation has historically played a vital role in increasing efficiency and although the majority of industry sectors have experienced a rapid growth of productivity, the transport-logistics industry has seen a relatively small improvement in terms of efficiency [12].

Innovations in the transport industry are expected as a result of integrating new technologies and developing new mobillity concepts. The current transport sector is experiencing radical changes, as witnessed by the emergence of a multitude

of new applications, business models and specialisations as well as by the market entry of new players [13].

In recent years, creativity has been increasingly seen as a social phenomenon [14]. According to Franková [15], it comes primarily from the fact that human mind is the source of all creative ideas. As has been confirmed in a number of empirical studies, a certain creative potential is characteristic of each human individual, and he/she is, or can be, creative [16-20]. The level of creativity, or the development and application of the actual creative potential the individual achieves, depends largely on him/her and the impact of his/her surroundings.

2. MOTIVATION OF EMPLOYEES FOR CREATIVITY

It is clear that the primary role of company management is to create an environment that promotes creative behaviour of employees, since the environment in which they work is one of the most motivating factors.

Other factors, such as a leadership style and the development of abilities and skills of human capital, determine to a large extent company innovative direction [21-26]. As Khazanchi [27] remarks, the characteristics of an innovative company includes: awareness, goal-oriented motivation as well as a surplus of skills, knowledge, support infrastructure and a highly participatory culture. According to Herbig and Dunphy [28], any creative activity is negatively affected by bureaucracy. On the other hand, innovations are stimulated by free communication, decentralization and certain trust between different hierarchical levels, thus enabling them to communicate their ideas and share knowledge within organizational structures [29].

The main objective of the above mentioned approach (aimed at motivating workers to participate in innovations) is to create an environment where dialogues between managers and other team members are important, and where workers' interests are respected in matters of decision-making and management.

The innovation concept with a high level of involvement of all employees in innovations positively influences company economic performance. Another positive effect is that the more people are involved in changes, the more willingly they accept the changes or implement them [30].

When employees engage in innovations, the given company goes through several stages with varying levels of engagement. To be more specific, Tidd [30], for instance, introduces his *Five-Stage High-Involvement Innovation Model* (see Figure 8).

THE FIRST STAGE ("Unconscious involvement") – although people are occasionally involved in innovations (e.g. failures of a new product), there is no formal process to support such actions, which does not bring any significant benefits for companies [30].

At this stage, hardly any potential (in the form of employees) is utilized by the company management. Managers often apply an authoritative style resulting in the fact that when employees do submit an innovative proposal, it is examined (inspected) and/or reviewed by management before even being considered for implementation [31]. If employees are involved in innovations, it's usually because they are in the right place at the right time, but very often they do not even realize that they are involved in any form of innovation at all.

THE SECOND STAGE – the first real attempts by companies directed to involve employees in innovations. At this stage, created processes are aimed at identifying and solving problems. The ideas gained are implemented as much as possible, and employees are subsequently rewarded or otherwise motivated. This has a direct impact on their re-engagement in solving a new problem, thus ensuring that the second-stage objective is achieved, i.e. *to develop a habit of employee involvement* in innovations [30].

The best way to maximize the innovation potential of employees is to enable them to do something they like [32]. Another important factor is creating an environment with open communication and efficient sharing of information [15]. A significant role is also seen in applying tools that confirm employee competence, such as rewards in the form of freedom of action, time and other resources, recognition or feedback, etc. [32]

THE THIRD STAGE – its objective is *to connect the habit with the strategic company goals*. In order to do so, a particular strategy must be implemented, which in practice means that the company strategy is communicated throughout and is further down sub-divided into specific management objectives that all activities (related to innovation involvement) are subsequently directed to. Still, all of the third-stage activities are predominantly managed by the company management [30].

THE FOURTH STAGE – includes empowerment of individuals and groups in experiments as well as their own initiatives, i.e. *authorization*. The principle of internal direction to innovation involvement is an important change as it allows and supports open knowledge sharing [30].

Provided that employees are sufficiently motivated by the company environment and the managers´ approach to behave creatively, and are reasonably well-informed about the company strategy, this becomes an important factor that can increase the company innovation potential and the freedom of individuals and teams in their decision-making [33].

THE FIFTH STAGE – the culmination when *everyone is fully involved* in experimenting and improving things, sharing information and creating an actively learning organization. Here, the ultimate objective is to create common values that connect people and enable them to participate in the company development [30].

It is important to note that each of these five stages takes some time to process and apply and there is no guarantee that companies will be able to reach the next level of high involvement of employees in innovations.

3. MATERIALS AND METHODS

Particular data from a survey conducted between 2013 and 2016 and gradually processed at the Institute of Economics and Management, the School of Economics and Management in Public Administration in Bratislava (Slovakia), were used in this paper, with the survey respondents being the top-level representatives of selected companies operating in Slovakia. The objective was to find out the current state of innovations in the companies and in order to do so, questionnaires were delivered in person and completed by the individual company representatives involved in the survey. The number of approached organizations was annually between 573 and 609,

with the returned number of completed questionnaires ranging from 60% to 65%.

To determine a suitable research sample, two stratification criteria were set out. The first criterion included a minimum number of employees in the companies involved (i.e. determined at 50). Although this criterion excluded micro- and small enterprises from the research, the justness and need to focus on a formal system of human resources management in companies with more than 50 employees were observed and especially declared by means of this criterion. The second criterion included a region of the companies´ operations according to the NUTS system (with Slovakia being divided here according to the NUTS 2 category), while the structural composition of the research sample was based on the data of the Statistical Office of the Slovak Republic (SOSR).

Over the observed period, the SOSR data show that the number of companies with 50 and more employees in individual regions oscillated around the same figures, with the regional structure of companies with over 50 employees in the given years being shown in the following table, i.e. Table No. 1.

While determining an optimal survey sample of the group of companies, Confidence Level of the research was set at 95 % and its Confidence Interval was set at H = +/- 0.10. On the grounds of the given criteria, an additional (relevant) sample for individual regions of Slovakia was set in the analysed years (see Table 2).

Table 1 Size of survey sample for individual regions in Slovakia

Region - NUTS 2	Bratislava Region	Western Slovakia	Central Slovakia	Eastern Slovakia
Region	BA	TT, TN, NR	BB, ZA	KE, PO
Number of Companies (2013-2016)	1102 - 1114	904-923	644-651	606-621
Size of Survey Sample	88	87	84	83

Source: authors, on the basis of SOSR

In terms of this research, companies from various economic sectors were represented in each of the observed years (see Table No. 2), with (n = 29 to 34) 11 % to 13% of the analysed companies operating in transportation and logistics. Yet, the research results did not show any significant differences at cross-sector comparison. For the given reason, the research results were evaluated cumulatively, i.e. regardless of the sectors the companies operate in.

Table 2 Percentual share of companies operating in individual sectors

Sector / share of companies in % in year	Share of companies in %			
	2013	2014	2015	2016
Manufacturing	39 %	40 %	40 %	39 %
Services	29 %	33 %	30 %	30 %
Transportation and logistics	12 %	11 %	12 %	13 %
Agriculture, forestry and fishery	9 %	7 %	10 %	8 %
Power industry and water management	3 %	4 %	2 %	4 %
Banking, finance and insurance	5 %	3 %	4 %	5 %
Other	3 %	2 %	2 %	1 %
TOTAL	100 %	100 %	100 %	100 %

Source: authors

The key methods used in the conducted research included logical methods, adopting the principles of logic and logical thinking. In particular, the methods of analysis, synthesis, deduction and comparison were applied. Mathematical and statistical methods were also applied here. As regards software products available on the market, a text editor, a spreadsheet and statistical software were used as well, particularly including MS Word 2007, MS Excel 2007 and SPSS 15.0 statistical software for Windows®.

4. RESULTS

Given that one of the basic prerequisites for a company to be innovative is the ability of its managers to attract and inspire their subordinates to changes, the authors examined whether the managers create sufficient space for employee involvement in innovation processes. And whether this is a priority in terms of the managers' purposeful guidance of employee innovation behaviour towards organizational strategy (both in the form of rewarding and in the form of correct leadership towards knowledge sharing).

In relation to the researched attribute regarding the level of employee involvement in innovations, the authors also tried to find out whether employees were perceived as a priority source of innovation incentives, or whether all staff categories were involved in innovations (not only managers and various specialists, but also executives or administrative staff).

The survey showed that the level of staff coordination and their involvement in innovation activities, aimed at achieving company strategic goals in the period under review, gradually increased from 21% (in 2013) to 36% (in 2016). Still, the majority

Table 3 Motivation and employee involvement in innovations

Company orientation towards motivation and employee involvement in innovations	Percentage of Companies			
	2013	2014	2015	2016
Employees are regularly involved in coordination with the orientation towards strategic goals	21	25	29	36
Employee knowledge is monitored, evaluated and rewarded	33	33	37	36
Employees are motivated to fully share their knowledge	6	11	7	14
Sources for innovation incentives come primarily from employees	61	62	63	70
All groups of employees are involved in innovations	33	31	44	43

Source: authors

of companies involve employees in the innovation processes either occasionally (when failures in new processes occur) or on a regular basis (but they work on innovations without any shared or strategic-oriented coordination). In this regard, the authors observed, for instance, rewarding for employee knowledge (being at about 35%) or sharing all the information supported by the management. In the period under review, the authors identified only a minimum percentage of companies where employees are motivated to share information, but saw hardly any improvement.

Then, the survey positively demonstrated that companies have the most frequent incentives to innovate from their employees (in the range from 61% to 70%). However, when looking into whether all employee categories were used for these purposes, the result was not so positive.

5. DISCUSSION

Regarding the current state of companies in Slovakia and their rather unfavourable approach to motivate employees for creativity and to engage them in innovation activities, the authors consider it necessary to strongly draw the attention to changing the aforementioned approach to employee potential so that companies are able to manage innovation processes effectively.

To analyse the basic information on the current state of the discussed issue, the authors propose to use a simple methodology assessing the level (extent) of orientation towards innovations. The proposed methodology is divided into three main parts, namely:

- Questionnaire analysis of current employee motivation for creativity and involvement in innovation activities.
- Evaluation of the current state.
- Identification of bottlenecks that prevent companies from increasing their innovation potential.

Following the implementation of the methodology parts, it is advisable for the companies and their management to evaluate the results obtained and to initiate measures to remove the identified barriers that prevent them from increasing their innovation potential.

Particular questions to analyze the area of "Motivation of employees for creativity and the extent of their involvement in innovations" (together with particular evaluation scores of individual answers) are shown in Table 4 below.

Based on the answers marked by the survey respondents, the individual scores of these answers are calculated and the total score along with the indicated level are given in the summary table. The individual score ranges on which the corresponding level is determined (with the analysed company belonging to it) are shown in Table 5.

To reveal certain bottlenecks in the area of "Motivation of employees for creativity and the extent of their involvement in innovations", another table (i.e. Table No. 6) was drawn up, where the survey respondents can specifically identify which part of the innovation involvement they need to focus on in order to reach a higher level in that area.

Table 4 Questions analyzing the area of motivation of employees for creativity and the extent of their involvement in innovations in relation to evaluation scores

	Questions and Answer Choices	Body
1.	Does the company management demonstrate its support to employee involvement in innovation proposals?	
a)	Yes, it does so constantly	10
b)	Yes, it does so occasionally	5
c)	No	0
2.	Does the company use its employees to seek innovations?	
a)	Yes, it uses all employees by announcing different competitions or by setting bonus rewards linked to successful innovations	10
b)	Yes, but it only uses some employees (specialized departments or project teams)	5
c)	Yes, there is a possibility of submitting a proposal to a superior or through an anonymous box, but some ideas are seldom realized	0
3.	How and when are employees involved in innovations?	
a)	At every opportunity (creating ideas, planning of how to put the actual implementations into practice) and in coordination with the company innovation strategy	10
b)	Regularly, but not in any coordination with the company innovation strategy	5
c)	Involvement is only unconscious (e.g. occurrence of failures when introducing new processes)	0
4.	Are innovation proposals of employees inspected and approved by the company management?	
a)	No, the management have full confidence in employees	10
b)	Yes, they are approved, but the management have confidence in employees when implementing them	5
c)	Yes, they are thoroughly inspected and approved by the management	0
5.	How does the company proceed if an error occurs while implementing innovations?	
a)	The company tries to eliminate the error and to ensure that it is not repeated, and the employees who find the error are rewarded in some cases	10
b)	The company tries to eliminate the error and to ensure that it is not repeated, and the employees responsible for the error are not punished in any way	5
c)	The company tries to eliminate the error and to ensure that it is not repeated, and the employees responsible for the error are punished	0

Source: authors

Table 5 Indication of the level of employee motivation for creativity and the extent of employee involvement in innovations based on the sum of evaluation scores of individual questions

Characteristic of Innovatíve Company	Your Result	Level where you are
Employee Motivation for Creativity and the Extent of Employee Involvement in Innovations	50 – 40	A
	39 – 20	B
	19 – 0	C

Source: authors

Table 6 Revelation of bottlenecks in the area of motivation of employees for creativity and the extent of their involvement in innovations

Question Number/Answer	1	2	3	4	5
Excellent	a	a	a	a	a
Average	b	b	b	b	b
Poor	c	c	c	c	c

Source: authors

On the basis of the results obtained by staff analysts after its evaluation, the proposed methodology allows to determine the actual level of a particular company regarding the discussed area of employee motivation and involvement. And having used this basis, the company can also identify certain bottlenecks that prevent it from increasing its innovation potential.

Taking account of the methodology as well as subsequent implementation of measures to eliminate the identified bottlenecks, it is possible to streamline the ongoing company innovation processes within several years.

6. CASE STUDY

To identify the barriers to the increased innovation processes in the context of utilizing creative potential of employees, a case study is used to classify the current state of the three selected transport-logistics companies through the proposed methodology (see Table 7).

COMPANY 1: Headquarters – western Slovakia, Core Business – international express courier service, Number of Employees – 205, Customer Base – Slovakia and the EU, Other Information – domestic shareholding, company revenues greatly exceeded costs in the past three years.

COMPANY 2: Headquarters – central Slovakia, Number of Employees – 118, Core Business – freight transport, direct distribution of products to customers, Customer Base – the Czech Republic and the Slovak Republic, Other Information – foreign capital participation, company revenues were sufficient to generate small profits in the past years.

COMPANY 3: Headquarters –eastern Slovakia, Core Business – international truck transport, freight transport and rental of passenger cars, Number of Employees – 78, Customer Base – Slovakia and Eastern Europe, Other Information – domestic shareholding, company revenues were insufficient to cover costs in the past three years.

6.1. Analysis of current state and suggestions for company 1:

Although the company management demonstrates its support to employee involvement in innovation proposals, it does so only occasionally. The shortcoming is that not all employees have an opportunity to engage directly in the process of submitting proposals. The employees involved do not cooperate in coordination with the common strategic context. The management support is clearly stated by the fact that the proposals submitted by employees are no longer inspected and approved by the management, and the employees receive full confidence in their implementation. When implementing an innovation and an error occurs, the company management fully supports its removal and makes sure that it does not recur, while providing employees with the assurance that they will not be punished for the error in any way.

To improve the current state of company 1, the authors recommend introducing an innovation culture in a comprehensive way. It is therefore necessary to clearly specify the possibilities of involving all employees in the innovation processes in accordance with the defined innovation strategy, which is seen as the company´s bottleneck. The company should also focus on supporting all employees to address issues, or to seek innovations in an area that they are interested in and close to within their profession – this often acts as the greatest motivator. Additionally, setting out certain guidance when putting proposals into practice (and when declaring full confidence) can be seen as a major motivator. The complexity of involving all employees in a strategy oriented towards innovations should be supported by financial as well as non-

Table 7 Revelation of bottlenecks in the area of motivation of employees for creativity and the extent of their involvement in innovations in analyzed companies

Answer
Excellent
Average
Poor

Company	Question Number				
	1	2	3	4	5
Company 1	b	b	b	a	b
Company 2	b	b	c	b	a
Company 3	c	b	c	c	b

Source: authors

financial rewarding – yet, this is what the company has not introduced in the context of submitting proposals. Besides that, there is no motivation in seeking errors/failures (when implementing innovations), which is a possibility of how to often attract a relatively large number of employees directly or indirectly influenced by the given innovation process. In this way, their mindset and commitment to innovations will increase significantly and the employees will view them as an opportunity rather than a threat.

6.2. Analysis of current state and suggestions for company 2:

Though only occasionally, the company management demonstrates its support to employee involvement in innovation proposals. However, the given support is not directed to all employees and no financial or non-financial motivators are used for this purpose. Employees are involved in innovations unconsciously, which implies that they participate in the innovations either because at the given moment they were in a place where certain errors occurred or they were invited to solve them, or they even expressed a presumption that was subsequently verified and put into practice. Trust is clearly visible when implementing innovations as there is no inspection in the implementation process, but the actual process is inspected and approved by the management. What may be positively evaluated is the management effort to draw all employees into the implementation, namely by certain rewards in the event of discovering errors during the implementation.

To improve the current state of company 2, unconscious involvement of employees in innovations may be identified as the most serious bottleneck, since in such cases the company management makes hardly any use of the potential that it has in the form of its employees. Therefore, the authors recommend creating specific processes aimed at realistic increasing of the employee engagement in seeking and solving problems related to company operations and subsequent implementation of submitted proposals. In order to ensure intensive involvement of employees in these processes, the authors also suggest that the management clearly states the intention to make such changes to all employees, and continues to support their activity in this respect by rewarding (or a different form of motivation) for each implemented proposal. This will then boost their re-engagement in solving other issues, and the potential for developing a habit of involvement in innovations will be enhanced.

6.3. Analysis of current state and suggestions for company 3:

The company surveyed stated that it does not currently focus on motivating employees for creativity and their involvement in innovations. For this reason, it is obvious that the company is not purposefully oriented towards creating genuine and innovative atmosphere. The questionnaire also revealed that even though some employees are involved in innovation processes, these are only staff memebers of specialized departments, or project teams. Moreover, proposals of these employees are thoroughly inspected and approved by the management, which implies certain mistrust. Based on the aforementinoed, it may be assumed that such actions are perceived as negative and demotivating by the employees. However, trust is considered as a key value in implementing and promoting employee behaviour with regard to innovations.

To improve the current state of company 3, the actual company management may be seen as the most serious bottleneck. Given the trends of globalization and internationalization and the associated environment dynamics, it is necessary for the management to realize that innovation can no longer be understood merely as a voluntary improvement of services and processes, but as the necessary part of business dynamics. Furthermore, with the current possibility of relieving research and development expenses (as provided by the Ministry of Finance of the Slovak Republic), there is an ideal opportunity to increase innovation activities. In view of the company management and its decision-making (or certain efforts to strenghten the need to innovate), it is also possible to focus on open innovations, where external partners may be involved in the innovation processes as well. In the context of the analyzed transport company, these are mainly educational and research institutions, such as the University of Žilina, the Technical University of Košice and the Slovak Academy of Sciences. Within the present business environment in Slovakia, cluster creation appears to be the most effective solution regarding the needs to bring together experts from the same fields of expertise and to reduce innovation costs. Clusters allow to use a higher innovation capacity and flexibility in today´s competitive market and to significantly diversify the risks of mainly small- and medium-sized enterprises. For these reasons, the authors recommend that the management considers the opportunity to focus on innovation culture and to clearly declare its intentions to the external as well as the internal company environment. If the company 3 management´s approach is positive, the authors suggest that the company follows the same pattern as company 2.

7. CONCLUSION

When managing the innovation processes, it is necessary to concentrate on people who are considered by many contemporary authors to be the most important resources of companies, i.e. particularly their skills, experience, knowledge and abilities [34–36]. In order for a company to be able to compete in the current competitive environment, it must have appropriate resources (primarily human resources). On the other hand, the company must also apply such management methods and procedures that will allow it to use their potential to the maximum [36], [37].

Employees should therefore be encouraged in their innovation efforts, and motivation can be the appropriate tool. Even the actual manner of communication and collaboration and/or creating a space for self-realization of employees can be sufficient incentive for them to engage in certain progress.

The research showed that there are very few companies in Slovakia with a sufficient motivation of their employees for creativity and the extent of their involvement in innovations. Therefore, the authors recommend that the companies raise awareness of this issue and focus on it. In the discussion part, the authors provide specific tools that can help these companies simplify the process of change.

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