THE MOTIVATION OF EMPLOYEES TO IMPROVING PRODUCTS AND PROCESSES IN THE CZECH METALLURGICAL COMPANIES

Andrea SAMOLEJOVA a, Martin LAMPA b, Radim LENORT c

a,b,c VŠB – Technical University of Ostrava, 17. listopadu 15, 708 33 Ostrava - Poruba, Česká republika, a andrea.samolejova@vsb.cz, b martin.lampa@vsb.cz, c radim.lenort@vsb.cz

Abstract

The paper presents a portion of the survey made in the years 2010-2011 in thirty Czech companies from either metallurgical industry or closely cooperating branches. Specifically, the paper focuses on the importance of employee motivation in the area of their creative and improvement activities beyond their standard working duties and which contribute to company’s proinnovation environment.

Keywords: motivation, employee creativeness, improvement, innovation

1. INTRODUCTION

In the nowadays dynamic economy, company’s ability to innovate is essential for its competitive advantage. Metalurgical companies, their suppliers and customers do not vary in this regard. For a long time innovation has been recognized especially as the means to turn research results into commercially successful products. Not all research activities lead to innovation and not all innovations are research-based. It much depends on innovation incentive origin of the innovations. The most of successful incentives therefore logically come from customers. They get what they order and so the company’s risk in such innovation activities and related R&D is minimum. But such innovations are in most cases incremental which means that they do not bring to the company any extra or even long lasting effects as regards its competitiveness. If the impact is to be deeper the innovation must be more radical. The more radical innovations revolutionary innovations tend to emerge from systematic R&D. Innovations are not the only source of company’s development. In fact, the continuous development is assured especially by improvements of various intensity as ongoing effort to improve products, services, or processes. That is the base of lean manufacturing, a management philosophy derived mostly from the Toyota Production System (TPS). While the innovation performs an organized (systematic) R&D characterized by strategic investment in innovation, be it high-risk-high-return radical innovation or low-risk-low-return incremental innovation; the improvement is the clever, insightful, useful ideas that just anyone in the organization can think up.

2. METHODS DATA

A systematic R&D is just one part of a systematic innovation management. There are other necessities to be determined in the frame of the systematic innovation management. Any innovation success lays in people who stand behind it. Therefore, dynamic and innovative organisations educate their people and motivate them to utilize gained knowledge for the company’s portfolio development. A systematic innovation management should also involve clear determination of incentives collection and processing as well as a clear employee motivation system. Well motivated people divert from their assigned activities to creativeness, inventiveness and pursue an innovation (in the sense of improvement) efforts. So besides the innovation incentives companies must also support any improvement incentives. The incentives intensity should reflect innovative potential of various branches. If innovations are highly firm specific, firms provide
lower-powered incentives for standard tasks to encourage more innovation, yet in equilibrium employees undertake too few innovations.

Companies that mostly innovate products upon their customers requests and needs often wrongfully think that a special attention to their employees’ creativeness and innovation activities is not necessary. They only acknowledge R&D employees as necessary innovative and creative human source or if there is no R&D department in the company employees from technological and production departments and do not care much about the other employees potential. On the other side, the highly proinnovative TPS is a people oriented system because it respects the fact that it is people who create and operate the system. Respect for the work team forms the basis of TPS. Effective utilization of a member’s time – all employee engagement and encouraging lean process improvement contributions from staff are key elements. Under TPS, every action of a team member should add value to the production process and help increase overall productivity. Communication and visual management are at the core TPS. And it is not just Toyota who realizes the employee potential. Other successfull and highly competitive companies such as 3M and Google let their employees spend about 15-20 percent of their working time on their own creative solutions.

Statistical data collected and processed among Czech companies in the years 2006-2008 proved that less than 20% of all innovations relate to products while more than 50% relate to process and organizational innovation (the rest is represented by marketing innovations which are not as significant in the metallurgical branch). Especially the organizational innovations origin in ideas of employees regardless the departments they work in. It further proves that all employees should be motivated and involved in company innovation system.

Although companies in metallurgical industry do not usually require highly firm specific innovations, firms also need to encourage all employees to bring ideas for at least incremental innovations either organizational or process ones.

3. EXPERIMENT PART

Over last few decades steelmaking processes have optimised especially energy use significantly but there are left many opportunities for further savings [1] through innovative ideas. The survey in thirty manufacturing companies from metallurgical industry (and firms closely cooperating with the branch) mainly from the Moravian -Sileasian region was made in the years 2010-2011. Managers of the companies who were at least partially appointed to control the area of product innovations and improvements and aimed to the topic of innovation management. Logically, the employee motivation to pursue their creativeness and related innovative ideas and activities was one of the investigated areas. Although almost 50% of the companies answered to the question: „Does your company apply a systematic inovation management?” positively, only very few of them really behaved this way. Even more warning is the fact that representatives 5 companies (approx. 17%) responded that their companies do not need any organized innovation activities.

The table 1 presents answers to the question whether and how motivation tools are distributed to employees if they pursue an extra proinnovative effort. It is obvious from the table that almost 30% of the companies do not provide any form of reward for their employees should come with some idea improving products or processes. In the time of economic recession metallurgical companies too must consider and check every idea that could lead to reduction of cost or product/process improvement. But it is employees who make choices between their assigned standard tasks for which the firm has a performance measure and provides incentives such as a regular wage and employee benefits - and individually valued innovation opportunities that fall outside of the performance metrics and require some form of motivation, ex post bargaining. If there is not such bargaining employees tend to put all their effort to their usual working duties only because they know how much and by what indicators they will be remunerated.
Table 1 Motivation of employees to creativeness (% of companies)

<table>
<thead>
<tr>
<th>Who/What sets a financial bonus (or other form of motivation) for employee creativeness?</th>
<th>No motivation is determined</th>
<th>Companies provide a motivation upon Company’s internal standard</th>
<th>Manager’s (mostly supported by a committee recommendation) decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>36</td>
<td>36</td>
<td></td>
</tr>
</tbody>
</table>

Source: survey, own calculations

4. RECOMMENDATIONS

Leaders must realize that innovation is sensitive and so must actively try to find and promote it. What could the companies (especially the 28 percent of them) do to support their employees’ creativeness? The following two activities form the necessary base and are applicable in all types of companies. The first one is usually the only form of motivation for workers and other employees in the lower wage range category and the second one if well managed can bring an extra motivation especially for employees dealing with an intellectual form of work and are in the higher wage range.

4.1 Setting of employee creativeness motivation system

As the very first step, any company that wishes to involve all employees into its improvement and innovative strategy needs to set a comprehensive and simple remuneration system and ensure its permanent publicity and availability. The system should define various categories for potential incentives submission inclusive of achievable financial amounts or other form of remunerations. Besides, it should clearly identify how and to whom submit an incentive (for example via intranet, or to a special department or line manager), set deadlines and responsibilities in the individual phases.

A financial remuneration is easy to recommend but much more difficult to implement, especially it the the time of economic recession, managers of the 28 percent companies could argue. Nevertheless, the expost bargaining means that the extra finances get to employees only when their idea or even improvement brought some kind of financial or other benefit and so there arises an extra source of money in the company’s budget. I mentioned also other benefits just like for example better working conditions, a faster communication or delivery ways, etc. Because they sooner or later turn into a cost saving too, in the end.

4.2 Well-considered management of employee creativeness

Economical rewards are motivating but they stop working as a motivator especially for an intellectual work when they reach certain level. Fortunately, there are other options besides the financial motivation how to engage people to be better performing, innovative and creative.

For example author Dan Pink [2] defined them as follows (the three areas were slightly revised to better fit the employee structure of metallurgical branch, because the original ones were intended rather for people already involved in a creative positions who are not satisfied just with a financial reward. ) . It is also the managerial approach that can strongly motivate employees. Managers need to:

- assure the necessary level of autonomy to employees: The desire to be self directed could be a highly motivating factor but the necessary autonomy intensity varies branch to branch and position to position. It should be provided to employees carefully especially in the working-class environment.
- enable employees to experience mastery: Their urge to get better and better at something that matters. Let people realize in something new and original. At the same time managers as well as stakeholders must accept risk and communicate that failure is expected and not punish failures.
explain and clearly promote a **purpose** of the specific employees involvement: People are happiest when working for something „larger than themselves“. This is something very natural for more intellectual positions but not very common for workers. It might help but definitely this tool should be accompanied by some other form of motivation. It’s the sense of purpose that pulls people together.

The three factors of autonomy, mastery and sense of purpose are interesting and lead to important implications for managing innovation not only in the metallurgical companies:

- **Managers need to give up a limitless control**: people respond strongly if they have control of what they do, and have some choice in the projects on which they work. To provide this autonomy, a manager can’t tell people all the time what to do. Managing isn’t just directing – it’s giving people the space they need to execute their interesting ideas. A command and control management, using arrows and sticks, works well in managing routine jobs. However, when jobs require any type of creativity, this style of management actually inhibits performance.

- To get good outcomes from this autonomy, employees also need mastery. **Innovation is about making new connections, but to do this well, we need deep knowledge**. Innovation isn’t about inspiration. Innovation is about working hard. Sure, making novel connections is what it’s all about – but you can’t do that if you haven’t done the hard work to know what the connections mean. Here’s Gordon Gould, one of the people that invented the laser, talking about the moment of inspiration:

5. **CONCLUSION**

While management often comes with strategic ideas, it is the employees on the factory floors, running day to day operations, meeting with customers and serving customers who have the lion’s share of ideas that can at least improve efficiency and thereby cut operational costs and at best may transform your whole business. Yet, most businesses including the metallurgical ones leave the innovating processes to management - and ignore the many potentially lucrative ideas locked up in their own employees’ minds. As a result, many innovative ideas are missed out upon. [3] Fortunately, there is a solution in the form of a systematical motivation of employee creativeness. The paper offers two tools for two categories of employees - a comprehensive and targeted motivation system as the first option motivation for workers; and non-financial rather psychological approach of managers who wish to motivate their subordinates. People should be allowed to work on the things that motivate them and more importantly they should be systematically and consistently rewarded for it. Motivation, of course, is no sure guarantee for a success, but with good ideas company’s potential increases drastically; which takes individuals who use their passion and dreams to support a mutual success. Modern manufacturing concepts and paradigms form the basis for current and future manufacturing. The main focus is set on the processes and this have an effect on operative managers [4].

**ACKNOWLEDGEMENT**

*The work was supported by the specific university research of Ministry of Education, Youth and Sports of the Czech Republic No. SP2012/42.*

**REFERENCES**


