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The Impact of Employee Training and Development Processes on Company Innovation: Research Results

The influence of employee development processes, including training efforts, on a company's innovation should be examined in the context of the relations of innovation with the set of human resource practices. A company can only hope to achieve a lasting competitive advantage if it is capable of attracting talented workers who lean towards continuous innovation and are open to change. This brings about an increase in the importance of education and the acquiring of knowledge. This link was the subject of research conducted by the ILSS in 2008. Indices characterizing the main pillars of HRM, including training and development, were specially constructed for the purpose of conducting an analysis of the accumulated data. Statistical analyses demonstrated a significant positive dependence between the dynamics of innovation and the level of training and development.

Ties among HRM Processes and a Company's Competitiveness Factors

Any analysis of the impact of processes broadly referred to as employee development, including training activities, on company innovation should be examined in the wide context of relations between innovativeness and the set of human resource management practices, whose character is systemic, while simultaneously being specific to the organization. A series of studies devoted to analyzing the efficiency of human resource management measured by its impact on individual company competitiveness factors, including innovation, in part points to the existence of such links.

With increasing frequency, organizations distinguished by their ability to maintain a long-lasting competitive advantage only come to the fore if they prove capable of internally developing a company system specifically allowing the attraction of talented workers who strive towards innovation and are open to change [Lawler, 2008]. As claimed by E. E. Lawler, it is only then that it becomes possible to create relatively

high entrance barriers that are only minimally dependent on the stores of capital of the given company, but do depend on the organization holding the appropriate structures, systems, processes, and practices that do not restrict experimentation, the capacity to acquire and transfer knowledge, or motivation, and do not dampen innovation. This brings about an increase in the importance of education and the gaining of knowledge by way of external and internal processes, where stress should be placed on the creation of an organization capable of continuous innovation and change.

In a study on innovative organizations (Survey of Innovative Organizations), based on a benchmarking analysis of 102 North American companies, the results demonstrated that the most innovative organizations were most often characterized by a holistic approach with programs encompassing both HRM practices and tools in such categories as technology, TQM, or enveloping other structural factors [Farias, Varma, 1998].

Many researchers show an interest in systems designed or adapted to the strategy of the given organization because certain studies have demonstrated that in spite of the frequent copying of HRM system from other organizations (known as the “external fit”), the mere misalignment of even extremely advanced human resource management systems to the strategy of a concrete company results in its lower efficiency [Guest *at al.*, 2003]. According to E. E. Lawyer [1996], high economic effects in company operations appear when there is a mutual fit among five key elements for undertaking business activity: company strategy, people, structures, motivation, and processes. In placing stress on aligning HRM systems to company strategy and specifics, certain authors [Dessler, 2005] note that among their common qualities the following applications may be mentioned:

- Methods of recruitment facilitating the attracting of a large number of highly qualified candidates for work,
- Verified methods improving the accuracy of worker recruitment and selection, and
- Relatively large numbers of training activities for workers.

The question of broadly understood development also makes its appearance in other studies that try to expose links between HRM practices and a company’s success and competitiveness factors. These include:

- Broadly understood training and development as well as more specific directions such as the development of leaders capable of building involvement, trust, and a work environment generating motivation [Lawler, 2004],
- Stress on training and development [Pfeffer, 1994], and
- Developing professional knowledge and sharing information [Snell, Bohlander, 2004].

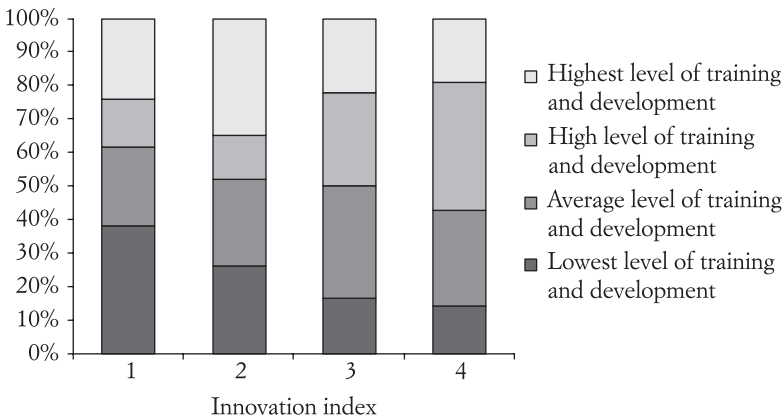
Ties between Training and Development Practices and Company Innovation

No study to date has been successful in establishing a unequivocal relation between practices in the area of worker training and development and the innovativeness of a company. In line with the above-presented holistic direction, such an analysis requires a comprehensive approach that takes into account:

- The alignment of training and development practices and company strategy,
- The defining of the level of efficiency of training and development practices in connection with the level of innovation, and
- The organization of the training process (the defining of training objectives and directions, taking into account employee expectations and the molding of specific competencies) and innovation.

Indices characterizing primary HRM practices, including training and development, have been constructed to meet the needs of analysis of the accumulated data. The evaluation of the logical cohesiveness of questions making up the analyzed index applying the alpha-Cronbach reliability coefficient is univocally positive.¹ Statistical analysis has demonstrated a significant positive dependence between the dynamics of innovation and training and development. This link of the discussed practices and innovation is illustrated in Figure No. 1.

Figure No. 1. Assessment of the Level of Training and Development in a Company with Respect to the Level of Innovation



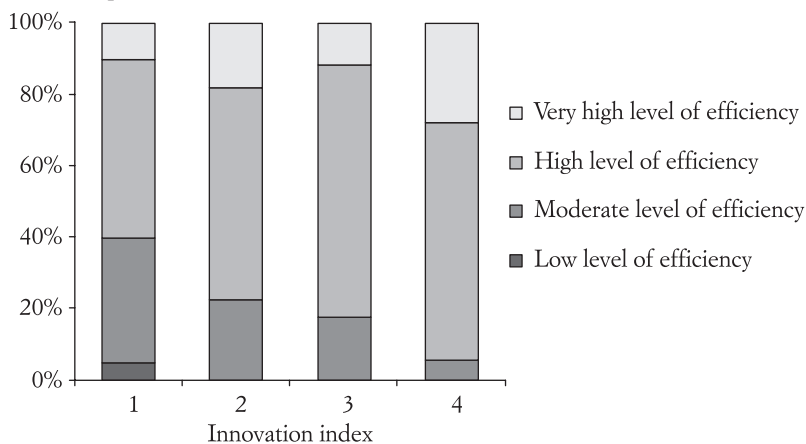
Source: Own studies.

1 In the case of training and development, the reliability coefficient amounts to 0.829.

In up to 57% of companies with the highest level of innovation, these practices were rated as good or very good, while high marks in training and development were only received by 38% of companies with the lowest value for the innovation index. This dependency is even clearer when the share of companies that received the lowest training and development rating are taken into account. Such companies accounted for only 14% in the most innovative group and 38% in the least innovative group. The interpretation of the analysis of the impact of these practices on the level of innovation makes possible the formulation of the premise that an appropriate level of training and development has a strong and direct impact on company innovation.

Also of interest are observations relating to the analysis of individual factors making up training and development processes. No dependency was noted between the alignment of the practices with strategy and innovation. However, an evaluation of the level of efficiency of training and development leads to completely different conclusions. The higher the level of the practices, the more innovation there was in the given company. In 60% of the least innovative companies, these practices were assessed as being effective, where a similar good rating was given by a total of 95% of the most innovative companies. This relation is illustrated by Figure No. 2.

Figure No. 2. Assessment of the Efficiency of Training and Development with Respect to the Level of Innovation

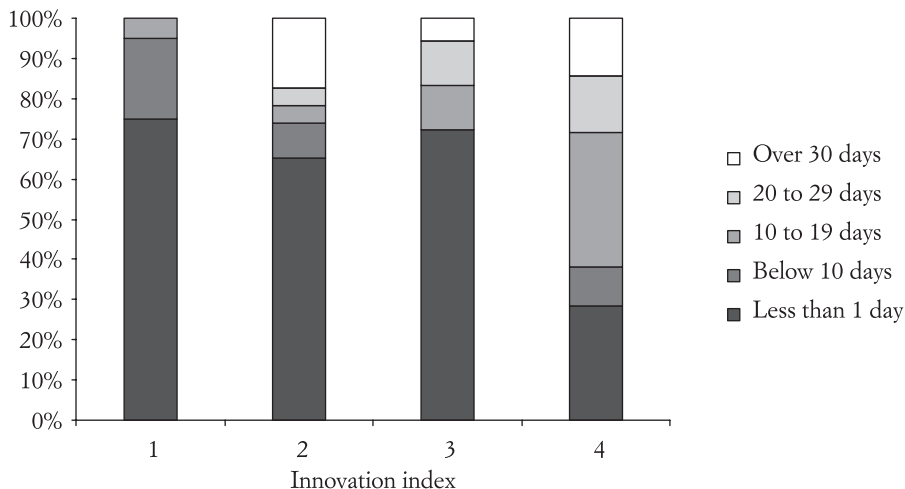


Source: Own studies.

In addition to an assessment of the discussed practices, what attracts attention is the average number of days of training over the course of the year per one employee. This coefficient is strongly correlated with the level of innovation. In 75% of the least innovative companies there was less than one day of training per year per employee, while a similar

response was received by 27% of the most innovative companies. In this group, the greatest share is held by companies that designate at least ten days per year for the training of their employees (62%). The discussed relations are presented in Figure No. 3.

Figure No. 3. Average Number of Days of Training per Employee with Respect to the Level of Innovation



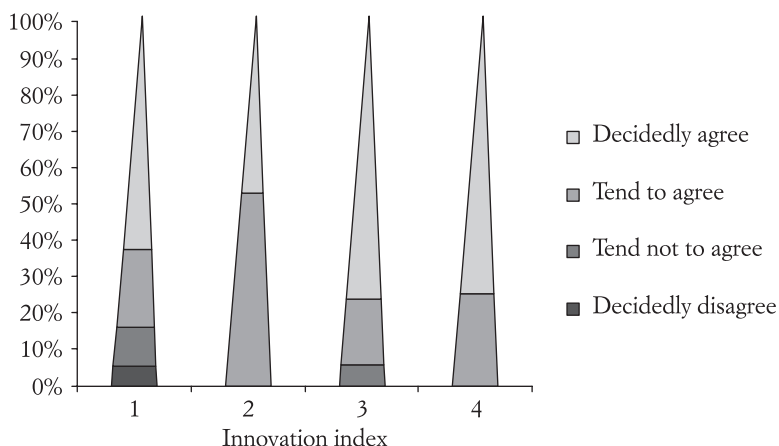
Source: Own studies.

Employee expectations are taken into account in the training process as conducted by companies with the highest innovation that direct employees for training less frequently than in the other groups. This allows the premise that the company is more aware of real training needs than individual workers. This observation seems to confirm the fact that, in practice, the most innovative companies always define the training objectives, while in the case of companies with the lowest level of innovation this is not that obvious.

Analysis of the basic objective of training undertaken in the investigated companies allows the drawing of interesting conclusions. The training objective defined as “the acquiring of knowledge and skills supporting innovation” is a priority in 53% of the low innovation companies, while 75% of companies with high innovation define this aim as paramount. Also worth noting is the training objective defined as “learning problem solving.” This time there is a clear dependence. This objective is a priority in companies with the highest innovation (80% of indications), while companies with a low level of innovation provide such an answer among 55% of respondent. This dependence is illustrated in Figure No. 4. It proved impossible to demonstrate the existence of a link between the level of innovation and training objectives targeting the “shaping of creativity,” “openness to change,” and “learning collaboration with other company workers.”

This is a rather shocking result, but it does seem to point to a situation in which, at least in the opinions of the representatives of the examined companies, the level of innovation is primarily determined by training aimed at the gaining of “hard” competencies that serve the achievement of concrete tasks, while “soft” competencies such as openness to change or collaboration can be of much less significance. Another explanation of the observed phenomenon may be differences in the level of advancement of the training systems. Research confirms a clear and positive correlation between the level of advancement of these practices and the level of innovation. Thus, it seems justified to state that training in the most innovative companies is standard procedure and the development of employees directly responsible for creating innovation takes place by way of advanced training programs primarily targeted at developing skills in solving complex questions of both organizational and technical nature.

Figure No. 4. Defining the Primary Objective of Training as Learning to Solve Problems with Respect to the Level of Innovation



Source: Own studies.

In concluding the discussion of results, it is interesting to cite a comparison relating to an assessment of worker competencies in all areas of strategic importance for the company with respect to the average level for the industry. It seems that in companies with a low and average level of innovation, worker competencies are generally believed to be higher or decidedly higher than the competition (almost 95% of responses), while in the case of the most innovative companies, worker competencies are defined somewhat more realistically. Not a single response defined competencies as decidedly higher than the competition. The identified differences in assessing worker competencies may be interpreted as a picture of the level of knowledge on the part of the managerial staff in human

resource management. If this information is juxtapositioned with the overall assessment of dependency between the level of HRM and innovation (the research univocally demonstrated the existence of a positive correlation), then it becomes possible to explain the more optimistic assessment in the group of companies with the lowest innovation by the generally lower level of knowledge in the application of personnel management techniques among managers from such companies. At this point a reservation must be made that this is a conclusion drawn on the basis of circumstantial evidence. The level of knowledge of managers in the area of HRM was not directly examined.

Conclusions

The presented analysis shows a significant positive dependency of the dynamics of innovation and the level of training and development. It was demonstrated that companies with the highest level of innovation have training and development systems that are significantly more developed than in companies with low innovation. Among other things, this is borne out by the highest assessment of the efficiency of training and development as well as the largest number of days of training per year designated per employee as demonstrated by the most innovative companies. Not only was the high level of development of these practices identified in this group of companies, but it was also demonstrated that this is tied with the question of a high level of preparedness in HRM on the part of the managerial staff.

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