Business processes and IT training – the strongest bridge between the management and the aims

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Key words: *ERP –Enterprise Resource Planning*

Abstract:

Traditional education forms the long-established fundament for achieving professional results. However, the dynamic changes in business environment constitute new learning requirements. Interdisciplinary learning is the slogan today. The new approach starts with IT training. How could IT develop more powerful expertise outside of IT? How should company management use IT as knowledge fundament? Is such an approach linked to 'regular' business processes and how? What kind of vocational training is needed in order to improve professional's knowledge and skills?

1. TRADITIONAL EDUCATION

Many companies around the world invest in the training of their personnel. These processes should not be considered random, chaotic or impulsive as meanwhile they have emerged to targeted continuous activities with well-defined tasks and goals. The level of company performance is depends directly on the individual performance of both managers and employees. Improved performance is the most significant target for every business. Consequently, in order to improve the company's overall performance, the entity should first improve the individual professional and performance levels of its employees. Improving employee performance requires from the individuals to acquire new and professional skills. Exactly this daily aggregation and utilization of knowledge by the employees shall be considered as a major development factor. The selection of highly qualified personnel itself does not automatically solve any knowledge issues.

In order to improve knowledge levels a different approach to training systems is needed. There are two general reasons for it. First, employees should be provided with new knowledge in new fields and just then specialized training is needed for 'upgrading' existing knowledge in a specific professional field of expertise. The later enables a qualitative change in the individual performance of daily obligations. Traditional vocational training covers these two aspects. This approach allows employees to systematically elevate their knowledge levels through continuous training, which at the end leads to improved individual results. The described vocational training practice is not new and is rather widely applied in modern days – various companies offer training courses in different fields and manufacturing businesses conduct specialized training courses with a specific professional focus.

Classical vocational training has some weaknesses though. The problem lays in the fact that every training course is designed to deliver a very specific scope of knowledge. It does not aim to analyze the company's activities as a whole as time is always a limiting factor. Another

important issue is the lack of IT training covering subjects such as general insights into IT, the extent to which they support business development and the way in which they can enhance performance. Still, IT is widely applied in the operations of any employee. They have lead to significant development in every sphere where they are used. Action and reaction times are constantly shortened. This creates a dynamic external environment.

This dynamic environment however constantly requires better IT management. It is the information technologies that created and develop the dynamic environment. At some point companies are no longer able to cope with the constantly and more dynamically than ever changing environment that requires more knowledge and resources all the time. Due to the swift development and the various applications of IT in every day business employees are often not able to catch up which has a direct impact on business operations and general performance. Company management suffers as this dynamic gap becomes more significant every day.

2. TRENDS IN COMPANY TRAINING

Traditional company training on the one hand and the dynamic environment on the other create gaps or insufficiencies in general management. It is obvious that traditional vocational training cannot offer a thoroughly new solution to this problem as the issue is no longer quantitative but has transformed into a qualitative nature. Therefore, in order to solve present company management problems a new type of vocational training is required that would enable qualitative knowledge developments.

The above represents a universal problem of contemporary civilization, which transforms the development of a future society in a process based primarily on the quality of new knowledge. It should be considered in the context of equal spread of knowledge at all functional levels of the organizations while regarding simultaneously general and individual aspects in their complexity. It is not surprising that one of the major contradictions in today's world is the growing knowledge flow paired with the minimized possibilities to acquire and implement it efficiently. A report of the international committee on education in the 21st century has pointed out this phenomenon to UNESCO already back in 1996. 1996.[1]

Defining the nature and characteristics of a new training approach depends on the needs of new knowledge in relation to structural, technological and other ongoing changes. We need a comparative analysis of the scope of vocational training offered today and its compatibility with the new requirements linked to the environmental dynamics and the changes caused by IT.

Consequently traditional vocational training should be extended by a completely new type of training that reveals the true nature and fundamental importance of IT. This new training concept does not conflict by no means with traditional company education. In fact it upgrades and compliments it by relevant IT knowledge. Accentuating IT would assist companies to gain an understanding for the environment they exist within and would enable them to forecast it.

[1] Delors, Jaques and колектив – „Education – a hidden treasure", доклад на международната комисия за образование за XXI-ви век пред UNESCO. Изд. Press Universitaires de France, Vendome-UNESCO, 1996

IT affects every organization. In other words, except for the dynamic IT related environment, a dynamic internal milieu is emerging too, which is directly linked to the external conditions. On one hand, IT introduction in daily business operations creates a dynamic external environment, and on the other hand the external conditions require a new dynamic internal situation. This interaction between internal and external environment forms the foundation for the introduction of IT in any company operation. IT becomes part of all functional operations and a major instrument for normal business activities. This influences directly the requirements for personnel training.

At present it is a common situation that company management does not understand IT's systematic nature, benefits and applications. The need for knowledge in at least two areas – at a methodological level (characteristics, structures, functions and processes) as well as specific professional expertise, IT incl., becomes apparent. In fact what is objectively needed in both knowledge and training is interdisciplinary knowledge and education. Only when traditional vocational training is combined with IT training we would reach not simply an enhanced educational practice but a truly new type of company education. That way every expert in a specific field would be able to utilize IT as an instrument in his work. This symbiosis would result in better performance.

Since IT training offers clear benefits each and every employee should enjoy IT training. Although it appears to be an easy task to state the necessities and benefits related to it, in reality the task is rather difficult. Training the entire staff would be a hard and probably impossible undertaking, even for the largest businesses in the world. Does interdisciplinary training make sense at all?

This question does not have a simple answer. Instead, we would elaborate on the principles for approaching this issue. Splitting the question in two might enable us to reach a basic decision point that would enable any organization to find the best suited solution for its own needs. The question is – who needs to be trained to what extent. Answering this question provides a sufficient indication, considering that there are generally valid processes running within every organization in a systemic context. A clear precondition would be that managerial teams are highly qualified in terms of IT in order to manage efficiently all processes within the system.

For enabling the dialog with all remaining hierarchical levels they should be trained too. Only then a solid human resource structure will be created that included individuals speaking the same language. The later stands for stability, prosperity and sustainable results.

3. IT AS INSTRUMENT FOR DEVELOPMENT

Another major issue is the fact that management should be based on precise information in both qualitative and quantitative aspect. Without the necessary information any management is operation rather intuitively and not based on the reality. Creating a system which allows integrating information about the major processes can provide for efficient management. Only then managerial decision will be based on information that objectively mirrors the process characteristics and alternative development paths.

Merging the information from various activities is a relatively difficult process that requires the provision of resources. Things get even more complicated by the need for data processing and information storage. Wouldn't then IT become rather a problem than a useful instrument?

Aren't too many resources and efforts needed for the maintenance and implementation of IT? The wide-spread application of IT does in fact extend the scope of issues related to them. What is actually growing faster – the IT benefits or the problems related to them? How could the information gathered be stored for future use? It is obviously needed to create unified rules and criteria that would allow result and operational information to be registered, stored, merged, processed, accumulated, preserved and used.

Creating an integrated information system (IIS) could solve all problems. The later should combine all processes by simultaneously enforcing a certain operational style. To provide for most up-to-date information the system should function in real time. Then the system can constantly accumulate information about ongoing processes, which in its nature is a form of knowledge extraction. The system allows treating the organization as a whole and not as separate independent activities. At present there are systems that offer integrated management so that managerial knowledge is focused on problem solving and not on gathering and processing of information. These systems are generally known as ERP systems. Except for gathering and processing operational data they offer also control over operational activities and analysis of operational results.

In order to operate, such systems need to apply their own rules. This restricts the organizations that apply them by requiring a very specific way of working that differs from the usual operations in a company without ERP. Hence, a flexible solution is needed – on the one hand management should be based on IT, on the other operations should remain designed in the manner, desired by the management. The major issue to solve is to provide for sufficient upfront training at all levels of the organization.

4. MANAGEMENT, IT AND TARGETS

Goals achievement is linked with a complex of knowledge, resources and efforts. Finding the best possible way for reaching a certain target is only possible when there is a clear and precise picture of the available operational methods and instruments. The lack of such a picture may lead to a difficult, slow, or expensive target pursuit.

This creates a gap between management and aims. The less is known about available resources and technology opportunities, the large becomes the discrepancy between management and organisational targets. Merely the creation of an efficient organisation based on the through knowledge of an entire complex of factors (system elements, their functional characteristics, possibilities and management objects) can help solving this problem. If a given system has a poor process organisation, it remains unclear who and how is conducting a certain task. In such a situation the internal processes have difficulties to function properly. Working in a poorly organised system often includes a number of unnecessary and parasite activities.

However, should the organisation be re-structured based on the real major processes within the system, and management is conducted by individuals who know their complexity, business processes would structure the activities by leading them always towards the implementation of major company tasks. Through the description of respective business processes a clearer picture is created which depicts the relevant processes, their sequence, the resources needed, obligations and responsibilities of the individual employees. The business processes description enables the elimination of 'parasite' processes, the improvement of major business processes through eradication of double-tasks, and the introduction of new and necessary processes.

The elimination of unnecessary activities and the transition to a process-oriented organisational structure provide for clarity and ability to foresee and forecast. Only then managerial targets can be depicted as a sequence of activities and required resources that correspond to real internal processes. Even in that case the IT implementation issue remains open. The decision should be based on the real need of applying IT in the company and not on the acquisition of multiple various IT solutions. This would be possible only if the company's targets are clear and described. Then it will be achievable to define specific requirements to the IT functionality. The description of the business processes within a company allows for receiving a clear picture about the necessary IT. Then the *modus operandi* will no longer be enforced by IT solutions already employed, but by managerial vision. The description of business processes creates an opportunity to formulate real and specific requirements for IT, which would not be possible without knowing these processes. The choice of IT means choice for an instrument that enables the management to reach its goals. Knowing the business processes provides the engineering drawings for designing the bridge to the targeted results while the choice of specific IT provides the construction tools.

Reaching the targets does not bring efforts to an end. Formulating new targets might become a problem if not linked to reality. In this regard it is necessary to forecast the future state of both the internal and external environment as well as the perspectives for the organization. It is not sufficient to know the business processes and to choose the IT for their implementation. One should know the functional possibilities of the IT too, so that the next bridge between the organization and its goals can be constructed. If IT is chosen only based on existing business processes with no attention to the future possible company situation, IT should have to be renewed periodically. Besides, IT often offers different methods for the achievement of one and the same goal. In that case the managerial decision would be influenced mainly by the specific IT functionality with regard to future plans. However, goals should not be achieved at any price. Nor the implementation of business processes. The operational costs depend to a big extent on the correct and rational use of IT. IT cannot organize themselves. Therefore there should be a strategy and policy on the most efficient use of IT.

Improving business processes, employing IIS, and the opportunity for collaboration between all employees allows the creation and implementation of efficient operation practices based on IT. The practices will be modified as the environment changes. All modifications and variations can be compared and modeled only based on the employment of IT. Therefore IT should be known very well. All these aspects of IT and their applications require the sound knowledge of IT opportunities by company management.

5. IMPROVEMENT OF KNOWLEDGE AND SKILLS

As a structure of knowledge, people, equipment and technologies, skills, targets and resources every company constitutes a system. Vocational training is linked to the above elements in their systemic complexity.

The system's sustainable development can be secured by such a training that covers the entire complex of the above elements separately and as a whole. Therefore that training should be universal, interdisciplinary and specialized at the same time. This approach should deliver the fundament for designing training programs that most completely correspond with the structure and the functional characteristics of the organization as training subject.

Based on one of the many universal structure types of a system – Rsys[2], these elements should relate to the trained system as well as to the trainee. This approach guarantees utmost correspondence between subject and object within the entire training process. At the same time it provides for a perspective of newly developed programs to match the future state of the object (figure 1).

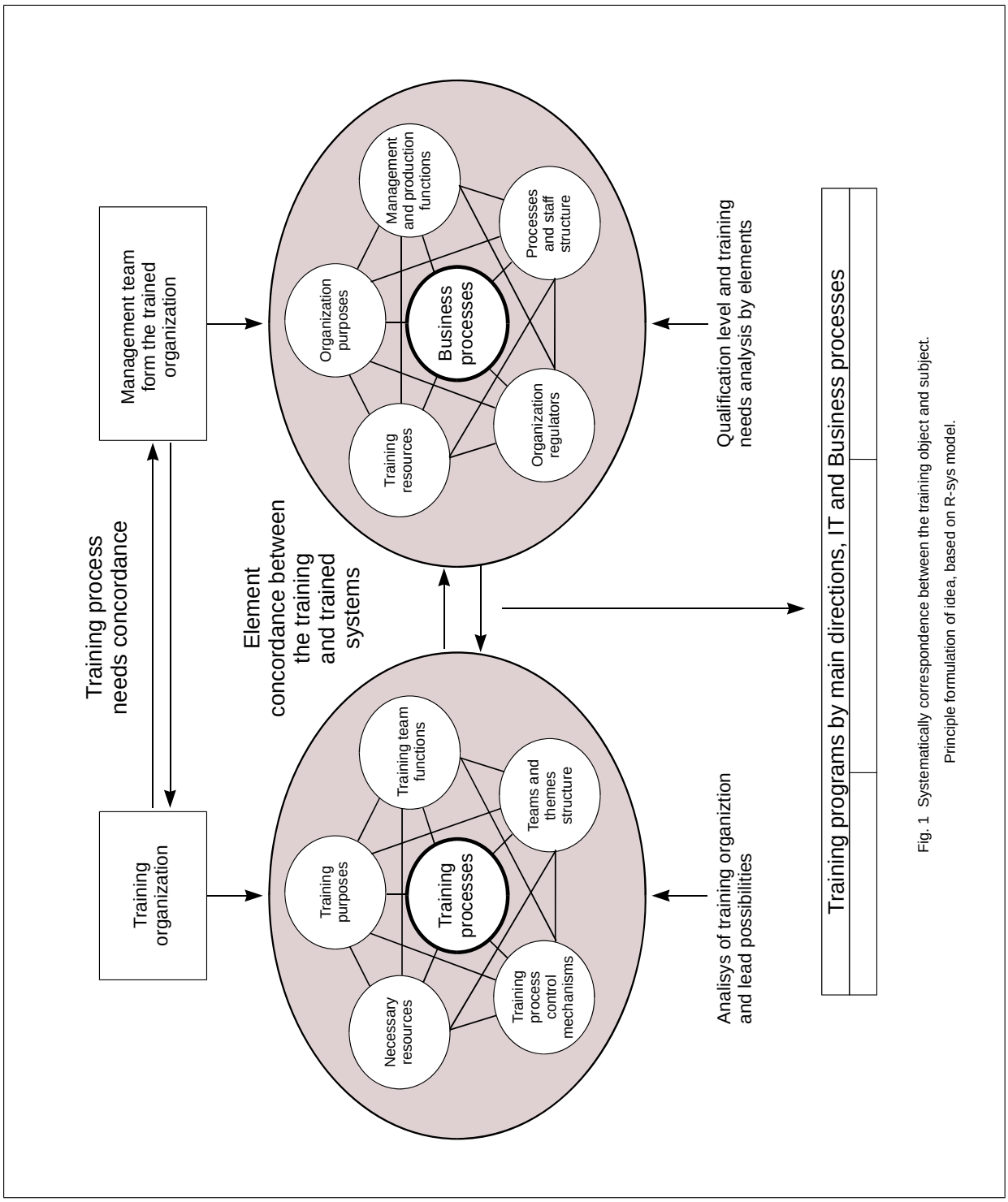

Fig. 1 Systematically correspondence between the training object and subject.
Principle formulation of idea, based on R-sys model.

In this context, here are some basic requirements a vocational training system should meet:

- Be adaptive to the different qualification levels and functional responsibilities;

[2] Radkov I.B.- „Management – science and practice" ISBN – 954-91218-1-X, publishing "Management innovations" 2002, p. 216

- The vocational training system should be updated as the environment within the systems changes. Corrective measures should be introduced, if necessary.
- The vocational training system should guarantee results; hence, it should provide sustainable results within the trained system.
- The system should be based on minimum personnel entry levels for each following level;
- The system should create a knowledge database for future training.

The vocational training program should include a business processes module too, as this section would clarify to trainees their position within the system, what and how is performed at the respective functional level, how a specific functional unit correlates to the other units, and how every unit or employee is linked to the final results.

Another compulsory module should cover IT in order to make employees acquainted with the means for conducting relevant business processes and their correct applications. The good knowledge of IT opportunities is needed also in order to secure the adequate future development of the system. IT should be regarded as an instrument for improvement of the qualification of all specialists outside the pure IT department.

A major issue with regard of training remains its accessibility. In small and medium-sized enterprises vocational training resources are rarely budgeted. In transitional CEE countries spending for vocational training is even more difficult. The abrupt changes in the educational system, its decentralization as well as the limited possibilities of the state to finance educational programs are deteriorating the workforce quality. Worse primary education affects directly company operations. Therefore additional training is necessary at the beginning of active work. Simultaneously, the mass introduction of IT to daily operations opens new training niches, which creates a high potential training services market. At the same time the specifics of the CEE market should be taken into consideration where long-time employees have significantly better primary and general knowledge. All these transform the supply of training services into a serious challenge to the organizations that wish to offer them.

The employment of new training approaches places a serious challenge to science because this means entering new fields in which knowledge is of significant, determinative importance. New knowledge should correspond with the complexity and dynamic of modern day developments. Revealing the complexity of the issues in this line of thoughts is *„more than anything a challenge"*[3] according to Ilya Prigozhin and Isabel Stenger. *„It comes to remind us that our science is just at the beginning of the complexity revealed by us and simultaneously a hope for the new nature of science…"*[4].

On e of the most popular scientists of our time – Peter Drucker, has devoted an individual book to the managerial challenges in the 21st century, in which he accentuates also on technologies and training as issues we should remain focused on in the contemporary century.[5]

[3] Ilya Prigojin Isabel Stenger – „The new connection – science metamorphosis", publishing „Science and art", Sofia 1989
[4] Ilya Prigojin Isabel Stenger – „The new connection – science metamorphosis", publishing „Science and art", Sofia 1989
[5] Peter F. Drucker 1999, „Management challenges into XXI century " publishing „Classic and style", Sofia 2000

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[2] Delors, Jacques and others – „Education – a hidden treasure", UNESCO, 1996
[3] Ilya Prigozhin, Isabel Stenger – „The new connection – science metamorphosis", 1989
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