DEVELOPMENT OF MISSING IT COMPETENCIES IN A PUBLIC SECTOR INSTITUTION

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Abstract

Human capital is the key factor for the success and sustainability in any organization. Hiring highly qualified information technology specialists for public sector institutions is complicated, and there are several reasons for this, not just wages. One is that the activity of the institution is very specific and deep delve into it is unattractive because the acquired knowledge will be difficult to reuse in another job. Therefore, it is worthwhile for the institution to find and train employees already working in the institution and willing to take a challenge to obtain the competencies that are most lacking in the institution. Launching a project requires addressing several both organizational, communication and psychological issues. There is a need to reconcile the distribution of workload, responsibilities between routine and new functions. It is particularly important to ensure good relationships between employees who have acquired additional competencies and other colleagues as well as with line managers. One of the largest public sector institutions in Lithuania has taken this path. The article examines the problems encountered when starting the project, the decisions taken, and the results obtained. The views of the project manager and the employees, who have acquired the new competence, are presented.

Key words: human capital, IT competence, change management

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Introduction

Human capital is the key factor for the success, irreplaceable accelerator of long-term effectiveness and sustainability in any organization. Its importance is growing especially when value creation requires more and more analytical skills, creativity, non-standard solutions. Usually in a competition for civil service several candidates apply for one position, but there are two specialities where the competition may not attract any candidate. These are IT

professionals and medics. The award of doctor's qualification is strictly regulated, and the organization cannot solve the problem on its own. Whereas for IT professionals the most important are knowledge, skills and other competencies, a formal diploma is in the second place. With the rapid development of the IT sector, the shortage of specialists in Computer Science is felt in all organizations, especially in the public sector. There is no doubt that this is not short time tendency, it will continue for at least a few more years, so organizations need to find ways to address this problem (Daxx, 2021). The usual means of motivating employees are not enough, as they are applied by all employers and it becomes very difficult or impossible to compete with large international corporations entering the labour market, which have significantly greater resources.

One of the possible ways to solve the problem is to provide the employees already working in the organization with the missing (in the organization, not employee !!!) competencies. It is clear that in this case not only the competence of employees will change, but also the functions they perform will expand, relations with other colleagues will change, and in addition to vertical structural subordination project subordination will also appear. Challenges will also arise also for their direct managers as it becomes more difficult to plan routine work, and in some cases different approaches to the same issues may emerge. Therefore, such a project involves knowledge of several areas of management. The competence model is used in many areas of human resource development - recruiting officials, remuneration process, designing training, and developing programs (Skorková, 2016).

Firstly, the project should be seen as a change that poses organizational, social and psychological challenges. Change management is widely discussed (Choi 2011, Holt & Vardaman, 2013), but each organization and each change has its own specifics, therefore it is a topic that will never be completed. Secondly, it is related to the employee competency model and concerns not only the employees involved in the project, but also their direct managers, as well as the managers of the organization (Mergel, et al., 2019). Both the selection of employees to participate in the project and the overall HR policy are important for the success of the project. And finally, the third question is to what extent the outcome of the project will be sustainable and what to do to ensure that the project will bring long-term benefits to the organization. That requires staff with not only technical and business knowledge but also other competencies, like iteration, user centricity, curiosity, insurgency identified in competence models for public sector.

A large enough public sector organization is implementing such a project. The study was conducted 10 months after the start of the project; therefore, it is too early to make conclusions about the long-term results, but today's achievements suggest that the prospects are good.

1   Problem

The institution must look for ways to achieve the goals set for it. Would be easier to make change having employeess who have a dispositional tendency to adapt with changing situations. However, change is needed now and needs to be implemented with existing staff. Therefore organizations may consider identifying and then providing extra assistance, training, or support to less adaptable employees (Cullen,et al., 2014).

It is common practice for a software tester to be treated as an IT professional with some operational knowledge, which in public sector institution causes appropriate formal requirements. First problem faced by the organization was the difficulty in hiring such professionals. Another problem faced by the organization is the insufficient knowledge of IT department specialists about the business processes and activities and the insufficient knowledge of the specialists of the business department about the operation of the software in the local branches, which leads to inaccuracies formulating software requirements followed by numerous adjustments and corrections.

The previous process depicted in Figure 1. It can be seen that local branch employees saw the amendments only when they were developed and installed, they were not involved in formulating the requirements.

**Fig. 1: Previous software amendment process.**
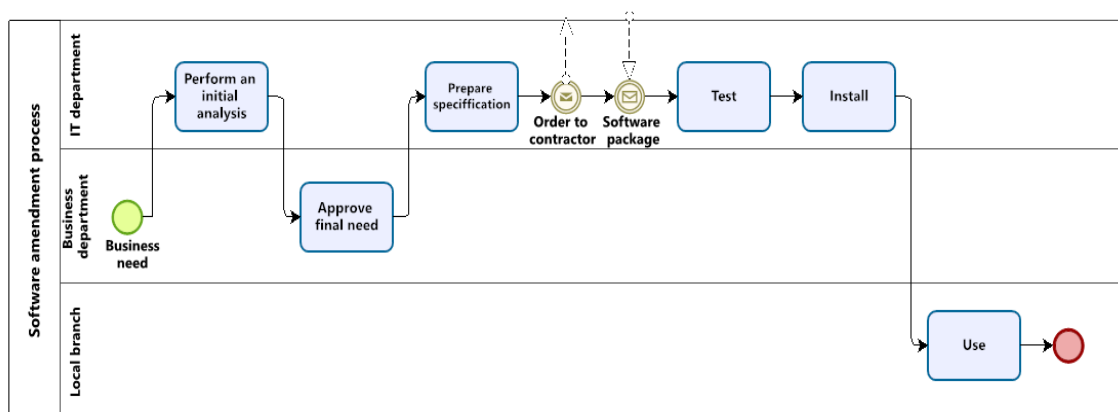
Source: Authors.

Updated process depicted in Figure 2. A difference is that final requirements are approved only when they are agreed not only with the IT department but also with the branch office specialists. This means that the influence of the business department has decreased - what it has solved on its own now has to be coordinated with the local branch specialists carrying out that activity. It could have been predicted that this would provoke some resistance. At the same time, the responsibility of local branch specialists has increased, what was previously responsibility of only the "center" now also became the responsibility of branch office.

Fig. 2: Updated software amendment process.
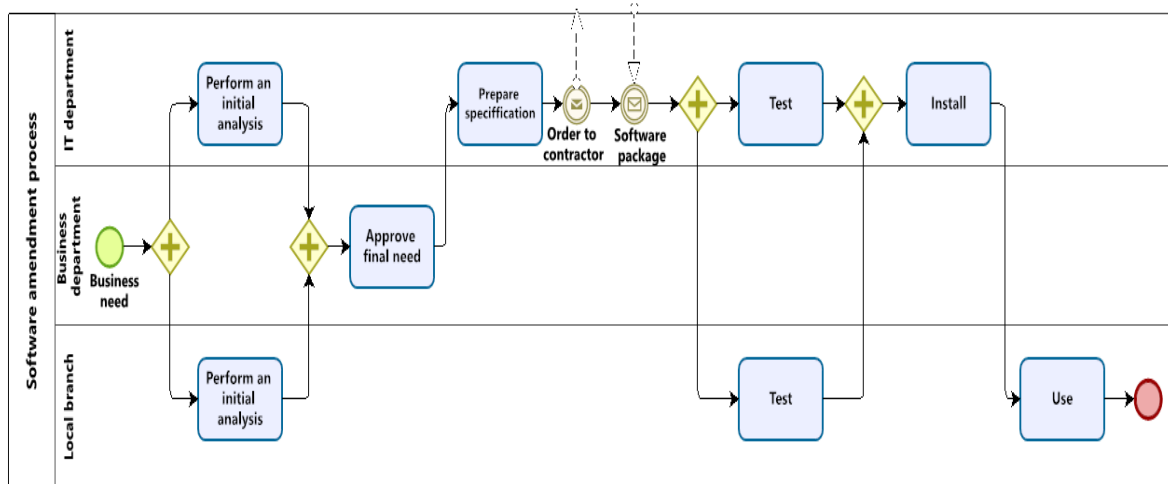
Source: Authors.

The change also occurred in the testing phase. If previously the IT department was solely responsible for the quality of testing, now branch office is also responsible. Before deciding to participate in the project, branch office employees knew that their responsibilities would increase significantly, along with the complexity of their work and the value created for the organization. They also understood that at the same time, the relationship with colleagues working in the same office would change. In the past those who were "out there somewhere" were blamed for the software bugs. Now it is the responsibility of the person who is here, in the room.

2 Method

A questionnaire was sent to all 39 employees involved in the project; 36 answers (92%) received. Almost half of the respondents (19) participated in the project for 10 months, the other half for 2 months. There were two groups of questions.

The first group of questions related to pre-participation in the project period. Participants were asked about the reasons that led to the decision to participate in the project and about the factors that raised concerns and doubts accepting the challenge.

Another group of questions is related to the participants' well-being during the training, work in new positions, problems that arise and motivating factors. Participants were also asked about how they envision the future of the organization in the context of employee competence.

3 Results and discussion

All respondents indicated that they do not plan to change job in the coming year, nor did they do that before the project. Although the age of the employees ranged from 27 to 60 years, the dominant factor in deciding to participate in the project was the desire to increase their competitiveness in the labor market. Such a motivation is easy to understand because it is difficult for public servants, especially at a higher level, immediately apply for similar positions in another organization, both public and private. For example, experience gained in one bank will be useful when moving to another bank, knowledge gained in the logistics sector will also be useful when working in another logistics company. Meanwhile, public sector institutions in the state are usually unique - the state usually has one tax administrator, one ministry of culture, one aviation safety service, and so on. Specific knowledge acquired in one institution is poorly applied elsewhere. Therefore, younger employees who plan to have more turns in their careers prefer to choose the first type of jobs. Older employees (the term "older worker" usually refers to workers aged 50 or 55 and above), meanwhile, value stability. Despite the existence of a stereotypical attitude towards older employees, like strong work ethic, unwillingness, or inability to learn new skills, and inability to change or adapt, but in reality, with more experience they can acquire the necessary competencies and perform the assigned functions with the same time. It is therefore important for organizations to understand the motivations of older people to continue working and to create an appropriate work environment.

Kooij de Lange, and others (2008) reviewed various approaches to conceptualize aging of employees (chronological age, functional or performance-based age, psychosocial or subjective age, organizational age, the life span concept of age) and identified the most

motivating and most demotivating factors to continue working. For workers with insufficient income to retire financial reasons play most important role. For thus, who have sufficient income to retire motivating factor may be the work itself, traditional work ethic, derived satisfaction from using their skills, gained sense of accomplishment from the job they perform, and the chance to be creative. Cognitive abilities, self-perception, and organizational age mainly affect the direction of motivation to continue to work, while calendar age, physical health, social perception, and life span age mainly affect the termination of the motivation to continue to work.

Another motivating factor was the belief that gaining additional qualifications would increase remuneration in the current organization. Such a belief is reasonable and obvious because an employee with higher demand in the labour market is more expensive. It is important for management to respond at the appropriate moment when the salary is to be reviewed. The employee who has just completed the training is not yet creating value for the organization, on the contrary, the organization has just invested some funds into the training. However, the adaptation period requires a lot of effort from the employee, so it is necessary to show the employee that he has achieved a certain, albeit small, victory (Kotter, 1995).

Statements such as "I want something new", "I wanted to expand my IT knowledge for a long time and now is an opportunity", "I realize that if I don't learn, I may become redundant" have been mentioned by several (4 to 8) respondents.

A commitment to change which can be defined as "the relative strength of an individual's linkage to the organization" is one of the three most important determinants of a positive attitude to changes (Myungweon, 2011). However, is this project it was not a motivator, but a source of doubts. Among the reasons that raised the most doubts were the statement "I wasn't sure I would be able; I did not want to disappoint". For most professionals who have been invited to participate in the project, their reputation in the organization is very important.

For a person who has performed certain business functions for 10 or maybe even 20 years and is a recognized professional in this field and can expect that he/she will be able to continue to perform familiar functions successfully for the next 5 years, to decide to acquire a new qualification and devote a significant part of his/her time to perform new functions is a very big challenge. This change inevitably triggers both a cognitive and an emotional response. That response might be positive, neutral, negative, and mixed. Therefore, it was necessary to analyse all the circumstances and create a change environment that would provoke the strongest possible positive response and the weakest possible negative response.

Smollan (2006) notices that positive response occurs when employees believe that the change will be beneficial to the organisation, some of its external stakeholders, to groups of employees or the individual employee. Such an approach is shaped by the perception that outcomes will be favourable, fair, just, that the scale, speed a time of the change are adequate. If the environment of change forms the opposite attitude, it provokes a negative response, anger, mistrust, and resistance to change.

In order to show employees how important to the organization is their decision to participate in the project, it was decided that the organization bears all the financial risk of failure. It was promised that employee can leave the project at any time and return to his former position, the funds invested will be a loss to the organization.

Smollan (2006) also highlights the qualities of change managers that could lead to a positive reaction from employees – leadership ability, emotional intelligence, perceived trustworthiness that is significant factor in the formation of employee perceptions of procedural justice. Therefore, managers who already worked in the organization and had earned employee recognition were chosen to lead the change and the newly created structural unit.

Other factors that cast doubt on participation in the project were related to uncertainty. "How much this position will be needed if automated testing is implemented", "how the workload will be distributed between old and new functions", "what will be, if the workload will be insufficient". The change plan must be as precise and detailed as possible, and it must be communicated to both the people involved in the change and the surrounding employees. But another task is to convince employees to believe in the reality of the plan. The task becomes even more complex if such or a similar change has not taken place in an environment close to the organization. Then it is necessary to relay on the experience of projects carried out in other countries, and employees have reasonably more doubts, uncertainties. In this case, the leadership skills of change managers and organization leaders play a crucial role. It is always important to bring together a group of supporters who are both socially and physically close to the employees affected by change and help to achieve the project's goals (George, Sims, and other, 2007). In recent years, communication has become significantly more difficult due to the covid-19 epidemic and related movement restrictions.

It is worth to notice, that overall context was not entirely favourable for the project, because the merger project was carried out in parallel, which always provokes a negative reaction.

As already mentioned, similar projects for employee competence development and even substantial skills change can become daily routine and organization shell be prepared for them. One of the most important topics is what the HR policy should be what qualities are most

important for the future employees of the organization. It is also necessary to think about the skills that managers in an organization need to have in order to successfully implement mentioned projects.

Today is the time to start thinking about new way of leadership. As we discussed earlier, the success of change is highly dependent on the accurate planning, greater clarity, comprehensibility, and predictability of results. However, circumstances sometimes change too quickly and it becomes impossible to predict everything. This is understood by all, including employees involved in change. Therefore, the highly assured statement that "it will be so" becomes unconvincing. Managers need to find something stable that stays constant for a long time, even after major or minor changes. Although Management by Objectives is dominant in public sector institutions, it is time to consider Management by Values concept as well (Dolan, 2003).

Competence models are a key tool in human resource management systems and practices. Over the past 30 years, public administration systems around the world have undergone major reforms, and competence management has already been implemented in the public sector in some OECD countries (Skorková, 2016). However, not only the competencies needed by public sector servants are changing rapidly, but the ways in which they are acquired, the resources and the effort required to do that. Therefore, the competence model itself and its application must be constantly reviewed, which is an interesting topic from both a practical and theoretical point of view. A competence is a combination of personal characteristics, skills, abilities, knowledge, and other individual capabilities that are required for successful and effective performance (Skorková, 2016). Boyatzis (2008) defined a competence as "an underlying characteristic of a person which resulted in effective and/or superior performance in a job." According to Boyatzis, a competence in a job represented great ability and high performance. Digital competences and intercultural competences are defined as conceptually new skills required by a modern effective manager (Bondarenko et al., 2021). Recently, the vast majority of people entering the labour market have a basic knowledge of the use of information technology. And it creates the illusion that all things are in place. That's why less than half of the companies that have completed the digital transformation achieve their goals? In the public sector many digitalization projects also lead to digitalization, but not to efficiency of services provided. This is due to the lack of awareness among many managers and employees about the need to look at business processes and services in a completely different way (Schmidt, Cohen, 2013). Therefore, every organization needs to raise leaders who are able not only organize the transfer of activities to the electronic environment, but also to change the

perception of the organization's employees about work processes, as well as predict customer behaviour and develop appropriate service delivery processes.

Conclusion

Many organizations are facing a shortage of skilled workers and it can be assumed that, at least in the near future, this problem will only become more acute. Therefore, organizations that do not have sufficient financial resources to hire workers in the labour market need to find ways to address this issue by other means. One of them is to provide competencies in the missing area to existing employees.

Such projects are a big change both for the organization itself and for everyone in the organization, not just the employees involved in the project. Therefore, research on the management of such changes is interesting both theoretically and practically.

This study was conducted 10 months after the beginning of the change, so it is too early to make conclusions about the final results of the project. However, the study revealed that the critical success factors for the project are providing at least medium-term guarantees for employees, ensuring good relationships with former colleagues and managers, sufficient leadership skills and high emotional intelligence of change and follow-up managers.

It is useful, both theoretically and especially practically, to monitor the further progress of the project and to repeat similar studies over time.

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