



MANAGING EMPLOYEES IN A VIRTUAL ENTERPRISE

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Abstract:

The new business surrounding and the rapid progress of information and communication technology (ICT) enabled the creation of (and made a demand for) new organizational forms that fit better to new conditions. Because of development of ICT, workplaces are not fixed to a location, and employees can fulfill their duties practically from anywhere. In that sense, new organizational forms brought many new potential benefits: cost reduction (transport, offices), time saving, attracting young workforce that likes to have freedom of flexible working hours. At the same time, the question how to transform randomly scattered employees into a strong, cooperative, creative and productive structure became the biggest problem for human resources, so in this paper we will try, by contemporary literature and successful examples review, to answer this question. Although “virtual organization” is not a new concept, in Serbia it is still not recognized as a beneficial concept in long term for organizations in unstable context, so this paper is created with an intention to give guidelines to Serbian virtual organizations’ managers to overcome problems with their most important resource. The dominant theoretical nature of this paper is, at the same time, its biggest limitation.

Key words:

virtual organization,
virtual employee,
information and communica-
tion technology.

INTRODUCTION: GOING VIRTUAL

So-called “command and control” organizations from the past, had task specialization, span of control and top-down management as basic principles of organizing [1]. Nowadays, the supreme goal of most organizations left the same: to achieve sustainable competitive advantage through technological or social innovation, but changed business environment had driven organizational change, designing organizations to be more flexible and adaptive. The same advice applies to virtual organizations (VO), as well as to traditional organizations: to prioritize the problem of motivation and coordination, because they both experience a relatively high level of attrition and failure [35].

In time when Internet celebrates quarter of a century of its existence, World Wide Web is considered to be an irreplaceable means of work. Although Internet and IT enabled better connection between companies and their

customers, the biggest benefit of IT is maintaining business-to-business relationships, communication, and co-ordination [29].

Following the progress of IT, the definition of virtual organization also changed and evolved. At first VO was defined as geographically scattered entities, that use online platform only for communication and collaboration; in time, that platform became more sophisticated and it was used as a primary “tool” for executing daily activities and producing services. This technological change (as it always in history did) caused many organizational changes: structural, behavioral, changes in design and management, which have been for long in the center of research attention [25].

VO became very important because of potential benefits such as cost reduction, time saving, attracting young workforce, but also high gas prices, globalization, changing workforce demographics, and advances in information and communications technology are identified as fac-

tors that stimulate the use of virtual office [30], however, it put in front of the managers many problems including dealing with people without direct social interactions, which made human resources management even more complex than in traditional organization.

Typical characteristics of virtual organization are [7]:

- ◆ Boundary crossing (organizations “unite” to deliver desired products in changing business environment);
- ◆ Complementary core competencies (of entities in VO enable delivery of improved products);
- ◆ Geographical dispersion (which is partly overcome by the use of ICT);
- ◆ Changing participants involved (project-based tasks in VO);
- ◆ Participant equality (trust before hierarchy);
- ◆ Electronic communication.

‘Such virtual organizations act in all appearances as a single unit’, they are often defined as network organizations created by pooling independent enterprises (organizations, companies, institutions or specialized individuals) that unite “to exploit an opportunity together” [25].

In order to benefit from IT, organizations do not only perform their operations online, but also their management of human resources became electronic (e-HRM). E-HRM, as well as virtual working [39], became important within all organizations because of potential advantages: it boosts productivity, reduces costs, improves quality, and speeds up processes [2], so the number of virtual employees increases daily. The study, conducted in Taiwan analyzed 86 information and electronics companies, [3] has also shown that IT and VO adoption (as two cornerstones for e-HRM) is positively correlated with employees’ creativity and organizational innovation which made IT and VO crucial core competences that could build and maintain organizational competitive advantage nowadays.

Serbia holds a contradictory position: on one side we do have experts who could initiate development and progress in IT industry, remote working and VO, but, on the other side, public sector administration is not prepared to keep up with general progress, nor with the progress of Serbian experts. Already adopted laws often cannot be applied because of the missing bylaws. The very existence of real, completely virtual organization in Serbia is impossible because when registering a company, a head office still need to have physical address, for ex. [34]. It is high time to start and speed up development: to improve infrastructure and change state legislation.

CHALLENGES FOR HUMAN RESOURCES IN VIRTUAL ORGANIZATIONS

Changes in VO (comparing to traditional organizations) considering human resources are visible on three levels: organizational, managerial (entity) and employees level. Several problems that management of VO faces are listed in [10]:

Lack of trust (between employees and entities), as the most frequently discussed VO risk, represents the degree

of partners’ mutual trust. Partners-entities are unwilling to share sensitive information and to cooperate, which can be a big problem for a stability of organization in a long run [11]. Trust is a crucial factor in cases when the VO is being exposed to partners’ opportunistic behavior like facing uncertainty and ambiguity, or sharing only partial information [12].

Collaboration agreements (between entities and between employees) must be arranged in details in order not to lead to insufficient collaboration [13]. Although one of the main reasons for establishment of VO is knowledge and information sharing, potential risk [14] arises in limited transfer of knowledge. In [10] it is emphasized that, in case when the agreement between entities is not official, the boundaries of rights, obligations, commitment are blurred; before a network is established, members-future partners have to achieve consensus about terminology, terms of use, obligations in order to prevent future misunderstandings.

Differences between partners/employees in VO is a common problem for management because of technological, cultural, organizational heterogeneity.

In contrast to traditional organizations in which **communication** was important for integration and transfer of information, in VO it represents the basis of functioning and existence [15]. In [24] it is suggested that communication is better when team members can contact each other directly without a delay caused by time zone differences (web-conferences for ex.) but also by a means that can fulfill the nonverbal communication gap.

Different cultures within one VO may lead to lack of alignment between processes and inaccurate communication impacting on the sharing of information [15].

Geographical dispersion caused many cultural differences in values, beliefs, norms, behavior of employees [16], so management needs to be aware of all possible conflicts that may arise. With respect to all differences, there have to be one overarching culture in every organization to prevent negative impact on the successful knowledge management [17].

According to [10], an ethical problem might appear when one partner-entity takes part- **bids in two or more VO** in terms of resources, or staff.

EMPLOYEES IN THE VIRTUAL WORKPLACE

The change of organizational technology, the transfer from real to virtual surrounding led to different requirement for education, skills and characteristics of employees.

Maintaining constant communication and establishment of the relationship is crucial for VO, so their management often insists on weekly staff meetings (through teleconferences for ex.) or even face-to-face meetings in a company’s offices [27]. Some of the companies require that employees learn about organizational culture and develop relationships before they accept virtual work arrangements [5]. Virtual employees must be willing to cooperate because bonding among the team members



is very important, especially at the beginning of the new project because it boosts understanding and effectiveness of the team, and face-to-face meetings give employees a chance to develop a sense of belonging to the real team [28]. Although this cannot be taken as a rule, there are many characteristics that proved to be important/useful for a virtual employee [22]:

- ◆ Self-Motivation. Virtual employees should be self-starters, intrinsically motivated, ready to fulfill obligations without supervision and traditional control.
- ◆ High level of job knowledge and skills.
- ◆ Independence and confidence. Working remotely and being less exposed to supervision and feedback enabled and forced virtual employees to independently solve problems and make decisions.
- ◆ Comfort with solitude. A virtual workplace can bring feelings of isolation; therefore individuals with a lower need for social interaction might suit well for these job arrangements.
- ◆ Time management and organizational skills. Because of limited control of employees by their managers, individuals should possess the ability to organize their work to meet deadlines and to separate their professional and private life.
- ◆ Concentration. Virtual employees should be highly focused and able to handle with potential home distractions.
- ◆ Strong communication skills. Individuals who communicate via e-mails, Skype and other collaboration tools will need to make greater efforts to stay in touch with managers, co-workers, providing them necessary information and updates while working away from them.
- ◆ Trustworthiness and reliability. Virtual employees should be accountable for getting the job done to the same extent as if they were being supervised in the office setting.

Previous list of characteristics might be used as a starting point for human resource professionals, but recruitment process for VO must embody the entire philosophy of these organizations [32], including the nature of work, values, norms and beliefs.

A TEAM AS A BASIC CONSTITUTIONAL UNIT OF VIRTUAL ORGANIZATION

Organizations and employees must be prepared for changed business surrounding: remote jobs, extreme flexibility and adaptability, and high speed of response, improved productivity, new learning potential standard short-term and occasional engagements. Those changes influenced the structural and organizing forms: vertical barriers between different organizational levels, horizontal barriers between functions, external barriers between companies and external stakeholders and geographical barriers between nations, markets and cultures became more propulsive, thinner and even torn [18] which created a basis for VO. Traditional definition of organizational design is not completely applicable on a 'virtual organiza-

tion' because it 'embraces a variety of ways of working together, including virtual teams within organizations (intra-organizational) and interorganizational collaboration' [25], so a team has become a basic form of executing tasks.

Ogilvy & Mather is an international advertising, marketing and public relations agency that operates in 450 offices in 120 countries with approximately 18,000 employees. Believing that people should search for knowledge with energy and enthusiasm, this company created hundreds of communities/forums where ideas and insights are shared all over the company. Such capabilities, structural and managerial support, enabled virtual-team members to communicate efficiently, and experience company spirit through process of being familiar with each other [37].

From the early 1980s when scholars began the research till now, with the evolution of technologies, the definition of what constitutes a virtual team has changed [24]. Virtual teams are defined as "groups of geographically and/or organizationally dispersed co-workers that are assembled using a combination of telecommunications and information technologies to accomplish an organizational task" [23]. An effective virtual team represents more than employees bonded via IT: they must be empowered to make decisions in order to sustain the competitive advantage associated with positive characteristics of it operations/business [19].

Virtual teams are challenged because they exist only through computer-mediated communication technology, without face-to-face interactions [38]. In [24] location, culture, nonverbal communication and trust are mentioned as factors that affect effective communication and objectives fulfilling, so well-coordinated time (because of time-zones), well chosen means of communication and openness to differences can lead to trust.

Dell Computers is a well-known company prepared to outsource any part of its operations to companies that can execute tasks more efficiently, reliably and cost-effectively. When a customer buys a Dell computer, he also gets the whole service executed by a virtual organization team: from a customer service representative, assembly line and assembly crew, people from logistic and supply, to the driver who delivers the computer. Most of these services are outsourced, but in order to deliver best service together with the best products, it is very important that all Dell virtual outsourced teams closely cooperate, make good and timely decisions and function within the single system, coordinated and managed by Dell [36].

The interpersonal trust is the mainstay of employees in surrounding with the absence of traditional mechanisms of control and without direct contact in virtual team [20], especially at the time when they experience difficulties to understand differences (cultural, lingual, educational, personal) among them. Trust is built by overcoming the barriers, by communication that is clear and concise and in a manner that was oriented to the task [24].



Tabel 1. Some of the main advantages and disadvantages of virtual teams

ADVANTAGES	DISADVANTAGES
Reducing relocation time and costs, reduced travel costs	Lack of physical interaction
Cultivating and managing creativity	Challenges of project management are more related to the distance between team members
Greater degree of freedom to individuals involved with the development project	Challenges of determining the appropriate task technology fit
Respond quickly to changing business environments and increased competition	Cultural and functional diversity in virtual teams leads to differences in the members' thought processes. Developing trust among the members is challenging
Sharing knowledge, experiences	Team members need special training and encouragement
Better team outcomes (quality, productivity and satisfaction)	
More effective in making decisions	
Self-assessed and higher performance	

Source: Adapted from Ebrahim N.A., Ahmed Shamsuddin, Taha Zahari. (2011). Virtual Teams and Management Challenges, academic leadership, Vol. 9, No. 3, pp. 1-7

Teams are effective in accomplishing a wider range of tasks (from effort-based manual labor to creative problem solving) comparing to work done by individuals [4].

Most organizations experience problems during establishing and organizing teams [6], but virtual teams have an extra layer of hardship to the development of a successful team [24].

Teams have a particular advantage of integrating diverse knowledge of members and leveraging complementarities. However, extant literature also shows that teams require the right mix of incentives and coordination to accomplish tasks [8]. Exploring the factors affecting a problem solution suggested by team members, showed that the range and diversity of the information team members share with each other in their collaborative work, has very important role, as well as the coordination, high level of integration and interdependency of the team, but, maybe surprisingly, cash incentives could not change the nature work mode, nor did make increases in collaboration among team members [21].

Experienced virtual team managers suggest that all team members should also have mutual agreement on terms of cooperation - guidelines for meetings, cooperation, misunderstandings, behavior, etc. [26].

Even traditional organizations have at least one part of their tasks done online because of speed of informa-

tion transfer, so VO as "online organizations" are often considered to be a promoter of knowledge development in organizations [9].

SUGGESTIONS FOR SUCCESSFUL LEADERSHIP OF VIRTUAL TEAM

Beside the advantages and challenges of virtual team management, and the ways to overcome some of problems, we have already mentioned, we will try to address the solutions of managerial tasks in virtual surroundings and to suggest some guidelines to leaders from Serbian companies.

We have mentioned additional difficulties that are the result of virtual surrounding, but team leaders in VO generally can overcome this hardship with systems that are fair and equitable, they can make additional efforts to meet schedules appropriate for different time zones, and train team members to be culturally sensitive [24]. Virtual surrounding emphasized intended development of social capital: connecting distant members, finding ways in which individuals can be associated with others in the organization, bonding them via means of communication, structurally can lead to feeling of belonging of team members [31]. Confusions can be eliminated by clear guidelines for methods and the structure of the communication process, which could develop trust within the team and between team and management. Managers capable to deal with these issues and to solve problems can build virtual teams that could prosper [24].

For the abovementioned problem of interorganizational cooperation of direct market competitors, we suggest a system of clusters like in Serbian ICT industry. Three regionally placed clusters (Vojvodina, Nis, ICTNetwork) cooperate starting from 2012 within a cluster and with other clusters in Serbia and region; they widely use inter-organizational virtual team-work and through multilevel cooperation improve business environment and achieve the growth faster than average, innovation and productivity that lead to balanced regional development [33].

CONCLUSION

The most important conclusion about HR management is that virtual organizations are not traditional organizations with new, different medium for communication and they should not be treated the same. New technology and all it had brought, made, from many perspectives, virtual surrounding more complex than ambient of traditional organizations. By definition, organizations are social systems so when social interaction (as the essence of that system) is lacking, it must be replaced and compensate. We mentioned that HR management should pay more attention to communication means, regulative, methods of communicating, creating an atmosphere of mutual trust and sense of team belonging. We also noted that management should design tasks so all the good qualities of the virtual executive team, as the basic unit, can come to the fore.



The diversity of a team members and the diversity of information they possess are essential for innovative and sustainable solutions for the problems. At the same time, it is also important for teams to be compatible and coordinated which can be achieved through leadership techniques, organizational design and structure, behavioral guidelines, etc.

Companies have to evaluate the potential benefits and risks of cooperation with direct rivals, and therefore to decide on establishment of interorganizational virtual teams collaboration. If partners and team members in that cooperation are professional, fair, open, consistent, then potential benefits of entering into new and expanding existing markets, might direct rivalry toward common goals. Long term goal that every entity in that cooperation can have is new knowledge and learning.

Before Serbian managers begin to use those advices, it is important that numerous prerequisites, concerning infrastructure and law, should be met. In Serbia many aspects of online business are not clearly regulated. Public administration should speed up in adopting laws necessary for functioning of new organizational forms, including VO in order to avoid abuse. Those laws should be complete, consistent and applicable to general business conditions. We have mentioned the problem of company location, because, by Serbian law, it is still not allowed to register internet address as a location of a firm, but it still has to be "a building": even Internet has long time ago become our reality, public administration sector doesn't see it as real. We argue that it is necessary to harmonize legislation with other developed countries, because well-regulated field of e-commerce in Serbia can be a good basis for start-up business with a smaller initial investment, and for boost of virtual organizations.

REFERENCES

- [1] A. BjOrn-Nielsen, J. Turner, "Creating the 21st century organization: the metamorphosis of Oticon." Center for Digital Economy Research, Stern School of Business, Working Paper IS-95-13, 1994.
- [2] S. Strohmeier, "Concepts of e-HRM Consequences: A Categorisation, Review, and Suggestion," International Journal of Human Resource Management, Vol. 20, No. 3, pp. 528–543, 2009.
- [3] L. Liang-Hung, "Electronic human resource management and organizational innovation: the roles of information technology and virtual organizational structure," The International Journal of Human Resource Management, Vol. 22, No. 2, pp. 235–257, January 2011.
- [4] D. Lazer, A. Friedman, "The network structure of exploration and exploitation," Administrative Science Quarterly, 52, pp. 667–694, 2007.
- [5] E. Busch, J. Nash, B. S. Bell, "Remote work: An examination of current trends and emerging issues," Ithaca, NY: Center for Advanced Human Resource Studies, Cornell University, pp 1-12, 2011.
- [6] J. Joshi, and N. Erhardt, "Recent Research on Team and Organizational Diversity: SWOT Analysis and Implications," Journal of Management, 29, pp. 764–769, 2003.
- [7] H.P.M Jägers, W. Jansen, G.C.A. Steenbakkers, Characteristics of virtual organizations, *Primavera Working Paper Series* 98-02, University of Amsterdam, 1998.
- [8] H. K Gardner, "Performance Pressure as a Double-edged Sword: Enhancing Team Motivation but Undermining the Use of Team Knowledge," *Administrative Science Quarterly*, 57, pp. 1–46, 2012.
- [9] A. Kittur, R. E. Kraut, "Harnessing the Wisdom of Crowds in Wikipedia: Quality Through Coordination," Proceedings of the ACM 2008 Conference on Computer Supported Cooperative Work: 37–46. San Diego, CA, 2008.
- [10] M. Alawamleh, K. Popplewell "Interpretive structural modelling of risk sources in a virtual organisation," *International Journal of Production Research*, Vol. 49, No. 20, pp. 6041–6063, October 2011.
- [11] R.E. Speckman, E.W. Davis, "Risky business: expanding the discussion on risk and the extended enterprise," *International Journal of Physical Distribution & Logistics management*, Vol. 34, No. 5, pp. 414–433, 2004.
- [12] N. Panteli, S. Sockalingam, "Trust and conflict within virtual inter-organizational alliances: a framework for facilitating knowledge sharing," *Decision Support Systems*, Vol. 39, No. 4, pp. 599–617, 2005.
- [13] H.J. Bullinger, "Collaborative development – potentials of success in development networks," *Supply Chain Management*, Vol. 2, No. 1, pp. 64–95, 2003.
- [14] T.-H.You, Z. Zhu, Z.-C.Yu, "Analysis and assessment of knowledge sharing risk in the virtual enterprise." In: Proceedings of JCIS-2006, Joint conference on information science, Kaohsiung, Taiwan, ROC, pp. 51–55, 2006.
- [15] M. Grabowski, K. H. Roberts, "Risk mitigation in virtual organizations," *Organization Science*, Vol. 10, No. 6, pp. 704–721, 1998.
- [16] M.D. Singh, R. Kant, "Knowledge management barriers: AN interpretive structural modeling approach," *International Journal of Management Science and Engineering Management*, Vol. 3, No. 2, pp. 141–150, 2008.
- [17] R.L. Chase, "The knowledge-based organization: an international survey," *Journal of Knowledge Management*, Vol. 1, No. 1, 38–49, 1997.
- [18] R. Miles, Ch. Snow, "Causes of Failure in Network Organizations", *California Management Review*, , pp. 53 – 72, Summer 1992.
- [19] W. Cascio, "Managing a virtual workplace." *Academy of Management Executive*, Vol. 14, No. 3, pp. 81 -90, 2000.
- [20] Y. Shin, "A Person-Environment Fit Model for Virtual Organizations." *Journal of Management*, Vol. 30, No. 5, pp. 725-743, 2004.
- [21] K. Boudreau, K. Lakhani, A. W. Woolley, P. Gaule, Ch Riedl "From Crowds to Collaborators: Initiating Effort & Catalyzing Interactions Among Online Creative Workers," Working Paper 14-060, January 2014, Harvard Business School.
- [22] E. Hamilton, "Bringing work home: Advantages and challenges of telecommuting". Publication by the Boston College Center for Work and Family, Chestnut Hill, MA, 2002.
- [23] A. M., Townsend, S. M., DeMarie, & A. R., Hendrickson. "Virtual teams: Technology and the workplace of the future." *Academy of Management Executive*, 12, pp. 17-29, 1998.



- [24] R.V. Chhai and B. Kleiner, "Effective communication in virtual teams", *Industrial Management*, july/august 2013
- [25] E. C. Kasper-Fuehrer, and N. M. Ashkanasy, "Communicating trustworthiness and building trust in interorganizational virtual organizations," *Journal of Management*, 27, pp. 235–254, 2001.
- [26] D. Peters, "The keys to leading your virtual team to success," *CMA MAGAZINE*, July/August 2013.
- [27] T. Davenport and K. Pearlson, "Two cheers for the virtual office." *Sloan Management Review*, Summer 1998, Vol. 39, No. 4, pp. 51-65, 1998.
- [28] L. Dubé, Line. and G. Paré, "The multifaceted nature of virtual teams," in Virtual Teams: Projects, Protocols and Processes, D. J. Pauleen, Ed. Hershey, PA: Idea Group, 2004, pp. 1-39, 2004.
- [29] P.Y.K Chau, V.S.K. Lai, "An Empirical Investigation of the Determinants of User Acceptance of Internet Banking," *Journal of Organizational Computing and Electronic Commerce*, 13, pp. 123–145, 2003.
- [30] D. Meinert, "Make telecommuting pay Off," *HR Magazine*, Vol. 56, No. 6, pp. 33-37, 2011.
- [31] S.Davenport and U. Daellenbach, "'Belonging' to a Virtual Research Centre: Exploring the Influence of Social Capital Formation Processes on Member Identification in a Virtual Organization" *British Journal of Management*, Vol. 22, pp. 54-76, 2011.
- [32] Robert L. Heneman and David B. Greenberger (Editors). *Human Resource Management in Virtual Organizations*. Greenwich, CT: Information Age Publishing, 2002.
- [33] M. Petković, J. Lukić, "Information technology impact on competitive focused organizational design: case of Serbian ICT industry", EACES Workshop "Competitiveness of Firms, Industries and Countries - Cause and Solution of European Crises" 20th -21st September 2013, Belgrade, Serbia
- [34] Serbian Chamber of Commerce (2012) A guide for establishing a company, Belgrade: Serbian Chamber of commerce, available on <http://www.pks.rs/Documents/Kabinet%20predsednika%20i%20protokol/vodic.pdf>
- [35] B. Butler, L. Sproull, S. Kiesler, and R. Kraut 2005 "Community building in online communities: Who does the work and why?" In S. Weisband (ed.), *Leadership at a distance*. Mahwah, NJ: Lawrence Erlbaum Publishers
- [35] <http://www.dell.com>
- [36] L. Gratton "Working Together...When Apart", available on <http://online.wsj.com/news/articles/SB118165895540732559>
- [37] A .M. Hardin, M .A. Fuller and R.M. Davison, "I Know I Can, But Can We?: Culture and Efficacy Beliefs in Global Virtual Teams". *Small Group Research Sage. Publications*, 38, pp. 130-155, 2007.
- [38] J. Schramm, "HR's Challenging Next Decade," *HR Magazine*, 55 (11), 2010.