

## On the Management in Virtual Environments: Between Trust and Control

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This paper discusses trust and control in a virtualized environment, i. e. two sides of the same medal. An extensive use of information and communication technology, and virtualization of organizations put trust into the core of management challenges. Trust is a glue that bonds individuals and groups together to form virtual teams and a virtual organization. It is also an important force behind their innovativeness and flexibility. Besides the traditional perception of personal or individual trust, we have to introduce a much wider concept of organizational trust. It can be enhanced by legislation on e-business, electronic signatures, and data protection acts. Another factor that can reduce the risk and consequently build trust is the ability of computer technology to archive and recover all data and processes. Altogether, a virtual environment looks relatively safe if all available techniques and legislation are employed.

### INTRODUCTION

Technological progress and the globalization of economy enable modern organizations to introduce external and internal services that clearly demonstrate their transition to a more and more virtualized environment, which is characterized by an extensive use of electronic communications, and limited physical contacts (Davidov and Malone 1992; Mowshowitz 1994). Very few companies could be regarded as purely virtual, the majority of contemporary organizations show features of the new emerging organization paradigm (Bavec 2002a).

Virtualization of organizations has been a well-known phenomenon to business community for a decade (Kraut et al. 1998). However, management is still moving on an uncharted area with very few navigational aids. The relative stability of the traditional organization and management theory is replaced with constant and unpredicted changes. New organizational paradigms and managerial techniques that better suit today challenges are already emerging. Many corporations are virtualizing their internal organization and their business (IBM 2004):

Today, on an average day, more than 40% of 360.000 IBMers are working outside traditional office environments. They are working on site with customers, telecommuting, working from home, or are working mobile.

In Slovenia, many private and even government organizations follow this global trend and prove that it is a living and promising managerial concept. Digital economy offers many new opportunities, particularly for small Slovenian companies that would like to compete on the EU level or even in a global market. Managers show their interest for new services, and new organizational forms that would support them.

398

Virtualization of a business and organizational environment has significantly changed a landscape of management (Hesselbein, Goldsmith, and Bechard 2000; Drucker 1999). It also puts an enormous pressure on management, which has to cope with new challenges, unthinkable just a few years ago. Some managerial skills are seriously questioned and many techniques are losing their edge. For some managers these new concepts are still completely incomprehensible, for others they represent a challenge.

The paper deals with some management challenges in virtualized environments. It discusses two issues: trust and control. Very few researches have clarified these issues from a managerial point of view. Managers do recognize that virtual teamwork means interacting using technology, while they still do not understand trust and control in networked and virtualized organizations.

#### VIRTUALIZATION OF ORGANIZATIONS

Virtuality can be described in many different ways, as networked or virtual organizations, b-webs, 'anytime, anywhere, anyhow' organizations etc. For example, IBM prefers an expression Business on Demand, other IT companies prefer Flexible Organization, and similar expressions. New organizational paradigm is also getting a theoretical foundation (Mowshowitz 1997) with the Switching Principle and metamanagement. We will not take into consideration different terminologies and views, because they do not change the essence of the new organizational trends – virtuality and flexibility.

We can create a virtual environment with relatively simple and inexpensive technologies such as e-mails, internet and phone conferencing, cellular phones etc. If we add all arsenals of other multimedia and e-business technologies, we are already deeply in the virtual environment.

The simplest form or the fundamentals of virtual organizations are virtual and mobile teams (Kristof and Satran 1995):

Virtual team is a self-managed knowledge work team with distributed expertise, that forms and disbands to address a specific organizational goal.

The networking of virtual teams leads to more complex organizational structures and even virtual corporations (Word IQ 2004):

A virtual corporation is a firm that outsources the majority of its functions. Typically, a small group of executives will contract out and then coordinate the designing, making, and selling of products or services. In theory, this allows small groups of knowledgeable executives to find the lowest supplier for any given service, and to concentrate solely on the 'big picture'. In theory, it also allows firms to be nimble, rapidly ramping up production without having to slowly develop people and competencies.

Usually, we discuss virtuality from a business and entrepreneurship point of view, but there are also serious issues from a managerial perspective. How is a virtual environment different from a real world? What new challenges are there for management? How efficiently can we use traditional managerial techniques?

#### TRUST AND CONTROL

The most confusing issue for management is the fact that there is no clear line between the real and the virtual world, and consequently between traditional and new managerial paradigms. Many virtual activities based on the modern technology are difficult to manage and difficult to absorb by people. Trust and control are just two of such issues.

Trust is one of the most important success factors in environments, where physical contacts and other traditional ways of building and maintaining trust are not applicable any more. Trust is a glue that bonds virtual teams and organizations. Without a positive belief and confidence in actions of other members in the group, electronic communications would make people extremely uncomfortable and unwilling to share a destiny of a team. At the end, it would destroy motivation, team spirit, and reduce its efficiency.

Trust has many different faces and many different meanings (Daft 2001; Tavčar 1999). Rational routes of trust lay in a calculus of self-interest,

and its sociological roots are based on a moral duty and common values. It spreads from a trust on an individual or group level, to a trust among organizations or companies. Trust encourages cooperation, productivity, efficiency, innovativity, and positive loyalty. It is a foundation of more efficient organizational structures and processes, so it is a relevant managerial issue.

400

Control of virtual activities is another big challenge. Many traditional methods of controlling individuals and organizations are inefficient in such environments. How to control the behaviour of individuals, groups and organizations with very limited physical contacts? An extensive use of electronic communications makes it more difficult to identify individuals and their locations, and to verify the content of messages and data files. Misuse of the Internet is nothing new, or rare. Treats are often so serious that management cannot take any risk without employing very tight and expensive measures of control. But, how far they can go without threatening the very substance of e-business and virtual organizations? It is obviously a matter of balancing treats and gains.

Electronic communications have initiated the problems in the first place, while technology offers also some innovative and efficient solutions. New technologies offer new possibilities for management to control the organization. Electronic communications can reduce business risk and overshadow the traditional perception of trust. If you are not risking than trust loses its role and value or it can be seen in a completely new perspective. Virtual environments already show the signs of a new trust paradigm. In business and management, we should not mix trust and naivety because virtual environments bring some real threats to organizations.

As an example, let us take the case of e-learning in the business environment. Workers are obliged to take a set of courses defined by management. Courses are organized in virtual classes and are available only on-line. Can management control the progress and results of such education? The answer would come as a surprise to many managers. They can follow the educational process in all phases on a very efficient and simple way. They can check in real time who started a particular course and when he started it, how long it takes to finish it, what progress he makes in interim tests and exams, what was the score of the final exam etc. Management can control the educational process much better than in any traditional environment. There is even a danger of over control. Workers could easily get an impression that they are too controlled and

that could have negative consequences. Some researchers (Bavec 2002b) even show that an impression of unnecessary control diminishes trust into management.

#### BUILDING AND MAINTAINING TRUST IN A VIRTUAL ENVIRONMENT

It is obvious that trust is an important factor in virtualized environments; it is also obvious that risk and the ability to control the system increase the level of trust. Trust and control are two sides of the same medal. Intuitively, we would conclude that a lower level of trust requires a higher level of control, and vice versa. In reality it is not that simple. In the e-world both concepts are independent variables that significantly influence a management view on information and communication technologies (Dixon 2003):

Virtual management is a high risk strategy unless corporations are committed, and requires investment in technology as well as in team training.

Commitment, investments, and training are essential, but they have to be accompanied by measures that reduce uncertainty of virtual contacts and activities.

How to build trust between people or companies that communicate electronically, if people usually do not even know each other? One of the few researchers on this subject (Jarvenpaa and Leidner 1998) reveals that trust in virtual environments is build and maintained gradually. At the beginning we trust a person because somebody else, that we already trust, has expressed his trust on him. It is the transmission of trust from one person to another. The second level is more active. We value the behaviour of the person in the past, and predict his behaviour in the future. The third level is even more proactive. We estimate the capability of the person to perform some activities to deliver expected results (Cortada 2000).

There are also other researches and models dealing with trust, but they are predominantly oriented towards virtual teams. The question is what is the role of trust in virtual organizations, and which networks of independent virtual teams and independent organizations offer their core competence. A virtual organization is a much more complex organism than virtual teams, so it is very likely that we will have to extend our perception of trust.

The traditional view expresses some elements of trust that make virtual organizations possible. Personal trust is very important, but it is far from enough. From the management point of view, we have to extend the concept of trust on an organizational level to all issues that reduce managerial or business risks. Everything that decreases risk increases trust. Non-risk could be even a replacement for trust.

The majority of managers understand the role of trust in a virtual environment on a very intuitive way, from their individual perspective and understanding. However, intuition can often lead to wrong conclusions. We need more systematic and objective methodologies to assess all aspects of trust.

402

The most significant contributions to trust between individuals, as well as organizations come from:

- Personal (individual) trust.
- Legal framework (legislation on e-business, electronic signature, data protection etc.).
- Capacity of the computer technology to remember and reproduce every transaction and data.

As personal trust has already been mentioned we will now focus on the legal framework. A recent transition from an electronic data interchange to a wide scale e-business revealed that the traditional legal system is not applicable in many situations. Because of a faulty legislation, e-business has always been regarded as a very risky endeavour. In the last five years, the EU has introduced directives on different issues of e-business and electronic communications, including electronic signature. National legislations based on these directives have significantly reduced the risk of doing business electronically and establishing virtual organizations. Today, the legal system recognizes that electronic communications are equivalent to traditional ways of communications, but it also adds some new features based on electronic signature, time stamps etc.

Legislation is a powerful tool to increase trust on the organizational level and to reduce all kind of risks in the world of e-business and virtual organizations.

The third important contribution to trust comes from the unique ability of computers to 'remember' all transactions. From an operational point of view, this is the main difference between the traditional paper world and the digital world. All electronic transactions are documented and 'provable' for relatively low costs. That is why they are safer than

traditional paper documents. This may look contradictory but we could easily argue that it is true. Good examples are banks that have reluctantly opened their electronic transaction systems directly to customers via the Internet. Now they consider the Internet banking as safe as the traditional one. A combination of an appropriate legislation, a computer ability to log transactions, and electronic signatures would significantly reduce the risk of e-business.

We can see a very similar situation in internal communications within organizations. It is relatively easy to control individuals and virtual teams that use e-mails and different conferencing tools. Many companies have introduced electronic signatures to all internal e-mails, making everything traceable. Some of them are even overdoing control, making their own workers feel uncomfortable and suspicious.

#### CONCLUSIONS

Trust is cheaper than non-trust and makes the organization more flexible and responsive. We have less and less time to check and double check our business relations, so trust can dramatically improve our adaptability and particularly speed. On the other side, electronic communications make control cheaper and cheaper. Therefore, it is almost sure that we will exploit technology to its fullest, and reduce the role of trust to minimum.

As inter-organizational relations will be less and less personal, control will be higher. We have to be more subtle in group and personal relations, because the 'Big brother' symptom will soon play an important role. Trust is not a symmetrical relation, you can trust someone, but that does not mean that he will trust you. Management has to trust workers, and vice versa. However, if control is only in hands of management than the other side will always feel somehow threatened. Balancing trust, risk, and control opens many dilemmas and problems in management.

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