



# Stability and Creativity as Contradicting Values in Information Management

*Timo Leino, Turku School of Economics, Finland*

---

## EXECUTIVE SUMMARY

*This case represents the situation at a North European business school in 1996 and the development process since then. At this school, the IT environment was quite heterogeneous and unstable, causing low user satisfaction. We describe the strategic actions taken and the successful consequences of those actions. Finally, we reflect on the lessons learned in our case for the current situation, where modern organizations are planning to implement Windows Vista and Office 2007, and the school in case is facing a new organizational challenge.*

*Keywords: end user computing; help desks; IS strategic planning; issues in organizing IS; strategic IT management*

---

## ORGANIZATION BACKGROUND

Turku School of Economics (TSE) is a Finnish business school that provides research and higher education in the field of business science. The school is very active in research, and offers graduate, postgraduate and continuing education. Expert consulting services form an increasing part of the School's activities. There are approximately 2,000 undergraduate students and about 300 doctoral students at the School. The teaching and research staff numbers more than 200 and other staff about 100.

The school is organized in departments. There are five departments for teaching and research: management, accounting and finance, marketing, economics, and languages. Two departments are dedicated to consulting, research and management education services: Business Research and Development center and Finland Futures Research center. Beyond these departments, information services units (the library, IT center and communication office) and the Office for Administrative Services are taking care of supporting activities. More detailed information of TSE can be found on [www.tse.fi](http://www.tse.fi). Naturally, the situation is not exactly as it was in 1996 anymore, but no major changes have taken place.

The top management of TSE consists of the rector and the vice rector, the administrative director, and the board. The rectors and the administrative director are permanent board members whilst the other members are elected every third year. Students have four of the 13 seats in the board. The management model may be regarded as quite democratic, in the usual manner of Finnish universities.

In 1996, the budget of TSE was around 90 million FIM (approximately 18 million U.S. dollars). As a state-owned university, TSE got 60–70 percent of the budget from the Ministry of Education; the rest came from outside financial sources such as scientific foundations, or companies buying e-MBA courses or research projects. The main part of the budget was spent on personnel costs. In the field of economics and business administration, no major investments (e.g., equipment or laboratories) are needed to produce high quality scientific research, education or services.

In 1996, an intensive strategic planning process was undertaken in TSE. As a business school, TSE had strategic planning as one of the principal topics in teaching and research. The process, therefore, was “by the book.” The newly elected Rector wanted the School to define a new vision and strategy, and he launched a planning process where almost every member of the staff was contributing in some way. The new strategy was approved by the board in September, 1996. The main message of the strategy was growing from a local teaching school to an international research organization.

Ten years later, a strong national trend for bigger university units and more international operations is evolving in Finland. The Ministry of Education is driving for cooperation or even fusions between universities. As a part of this evolution, TSE and University of Turku are enforced to rethink their positions in the Finnish academia. That led to a decision to form a consortium of these two universities with a common board. The decision was made in a very positive and constructive atmosphere in 2006. The future shared organization will get its concrete form in the years to come, and the actual deepness of unification remains to be seen. Cooperation in teaching and research is to increase, and possibly some restructuring of administration will take place.

## SETTING THE STAGE

The IT architecture of TSE in 1996 was a typical mixture of the technology at that time. The LAN had been implemented some years previously, every member of the staff already had a PC on her or his desk and e-mail had been taken into use throughout the organization, though utilizing the Web was still quite novel. No mainframes were in use: a type of client/server architecture was implemented based on file servers, e-mail and Web servers. Most administrative systems such as the student information system or payroll system were installed in the computers at Åbo Akademi University, an institution with Swedish as its language of instruction also located in Turku. The network connections outside the school were developed and maintained in cooperation with Åbo Akademi University and the University of Turku. Each of these three universities boasted their own IT centers and IT resources, but cooperation was quite active and the relationships between IT professionals were excellent.

The most widely used applications in TSE were word processing, e-mail, spreadsheet, library databases, statistical analysis software and the Web. Both Windows and Macintosh were in use, the ratio of Macs at about 15 percent. The blend of applications was quite diverse:

- For e-mail, Windows users had only one option (MS-Mail); Mac users had several programs, Eudora being the most popular.
- For word processing, Windows users had MS-Word (ver 2) or WordPerfect (DOS version); Mac users had several options, MS-Word being the most popular.

- MS-Excel was used for spreadsheet creation by all users except for a few devoted Lotus 1-2-3 users.
- For statistical analysis, both SPSS and SAS were used; SPSS was installed in a mainframe of Åbo Akademi University.
- For other purposes, users could choose their personal favorite software within budget limits.

TSE's centralized IT center consisted of the IT manager and seven full-time professionals. Besides this, part-time students were employed to assist personnel in utilizing the new technology in the IT center as well as in some other departments. The IT manager was responsible for the IT center. He had his own budget for covering the general IT expenses of the school. Those costs included the network (LAN and Internet connection), servers and the internal expenses of the IT center. Other departments paid for their hardware and software themselves. The heads of the departments made the purchasing decisions with regard to PCs and software whilst the IT center took care, in most cases, of the purchasing operations.

The IT manager reported to the administrative director. Additionally, there was an IT board consisting of the IT manager and representatives of users, students and IT professionals. However, the IT board had no real power—one professor said that it was a body in which the IT manager managed himself while coffee was being enjoyed.

## CASE DESCRIPTION

In this article, we first discuss the management of end user computing (MEUC) in general. Then we reveal the information management strategy (IMS) planning task at TSE from MEUC's point of view, taking the point of time into account. The situation in TSE in 1996 was a typical consequence of loose management and therefore has more general value. We discuss the creation and implementation of an IMS in TSE. The rector nominated a working group to plan the strategy in October, 1996. The group found out that users were dissatisfied with the current state of IT, but quite keen to take advantage of the new technology. At the end of the chapter we will reveal the results of personnel user satisfaction studies that show a highly interesting connection between standardization and satisfaction.

## Management of EUC

In the IS literature, users have been divided into two groups: end users and IT professionals. This line of thinking goes back to McLean (1979), who used the terms data processing professionals and data processing users. Rockart and Flannery (1983) found six categories on a continuum: non-programmers, command level users, end user programmers, functional support personnel, end user support personnel and data processing programmers. The basic distinction between end users and IT professionals is the relationship to IT. Professionals create applications for others; end users deploy the applications (Cotterman & Kumar, 1989).

Classification into two groups is sensible, because in a real-life organizational setting, the end user group creates a demand of services to be supplied by the IT/IS department (Leonard, 2001). Although this kind of demand/supply approach has been criticized and the alignment approach has been emphasized (Duchesi & Chengalur-Smith, 1998; Henderson & Venkatraman, 1992; Zee & Jong, 1999), the two groups and the interaction between them remain. Unfortunately, mistrust often characterizes this interaction, preventing a sound alignment.

The relationship between the IT/IS department and end users may be disturbed because of the power unbalance caused by the nature of the relationship. The supply side can perform its tasks adequately at best. In many cases, the system failures or users' low participation in IT

projects cause dissatisfaction with the IT/IS department (Kettinger & Lee, 2002). Smith and McKeen (1992) interviewed line and IT managers, and both groups seemed to have suspicious attitudes: “IS people are techies and don’t understand business...[they] don’t have interpersonal skills”; and “The users don’t know what they want.” Clearly, the stereotypes of these two groups are somewhat different to each other. Couger and Zawacki noted already in 1980 that IT professionals want to have more challenges and fewer human contacts than other people—and that is probably still a valid notion.

IT/end user’s alignment culminates in the standardization policy of the organization. The discussion on standardization started already during the 1980s, when the EUC was a new phenomenon. By ‘EUC’ we mean the voluntary use of computers in the broad sense of the term. An essential feature in EUC is the user’s free choice of tools and their use (Igbaria, 1990). Additionally, there is a more narrow approach to the EUC concept in the literature, defining EUC as systems developed by end users to support their decision-making (e.g., Aggarwal, 1994). Gerrity and Rockart (1986) introduced the idea of monopolistic (standardization) versus laissez-faire strategy. Munro and Huff (1988) stated that most organizations evolve from laissez-faire strategy to controlled growth strategy, either through control or acceleration. Henderson and Treacy (1986) explained the evolution using a state model, according to which the growth of a new technology and controlling its use always follow each others in cycles.

The essential issue in standardization is the power balance between the IT/IS department and the user organization. Trust and respect for each other is the key to healthy communication (Leonard, 2000). Halloran (1993) stresses the clear domains of responsibilities as a key to the success of information systems. It is fairly easy to bring forward arguments for a strict control strategy. Having such a strategy, the organization may achieve advantages in purchasing IT, organizing user support or training and maintaining user work stations and the infrastructure.

The users’ or departments’ power to locally plan and control IT resources is the counter-argument. From the point of view of a middle manager it may be hard to understand the IT/IS department’s argumentation for a “one for all” policy. Thus, coordinated development and greediness for power compete with each other. The former is based on synergy and rationality; with the latter, the motivation is merely emotional. The weighting of these two options varies case by case—the determining factor in most cases rests in opinions of the most powerful persons in the organization. These kinds of decisions are usually more politically than rationally based.

### The Starting State

Strategic IS planning (SISP) had been one of the areas of priority in TSE’s teaching and research for several years, and the Rector himself had been the leading researcher in this field (see for example, Reponen, 1994). With this background, setting up an IMS planning project was an eloquent decision. The aim was to create an IMS that well supports the strategy of the school.

Lecturer T was appointed to the project champion. He had experience in IMS planning processes in companies and had taught SISP and information management for several years. Other 10 members of the project group represented different departments. The team’s work took four months, including the following actions:

- A survey for the personnel. A questionnaire based on the UIS model (Bailey & Pearson, 1983) and EUCS model (Doll & Torkzadeh, 1988) was constructed in order to determine personnel satisfaction on services and tools, and opinions on the importance of possible focusing areas. Such areas as the development of infrastructure and systems, the improvement of user skills or user support services were presented. The questionnaire comprised close to 70 questions, with a Likert-like scale from 1 to 5 covering the following areas: the success

of SISP, the IT/IS policies, the service level of IT center, the IT/IS in users' disposal, user skills and the focus of IT deployment. The satisfaction with regard to specific administrative systems was not studied. The questionnaire was delivered to the personnel as a whole, the response rate being over 70 percent. The results provided extremely useful guidance for focusing on development actions.

- 22 interviews in which the viewpoints of various stakeholders were examined more deeply. A prominent set of problems and suggestions emerged.
- Several meetings of the project group. In most cases, lecturer T wrote drafts that were discussed and elaborated by the group. Lecturer T had a strong position in the entire process. Besides being the chairman and the writer, he carried out both the survey and all the interviews. One could criticize the methods being too much on the "planning school" side and that a more "learning school" kind of approach (Minzberg, 1987) would have been more fruitful. However, the plan was finalized in January 1997 and approved by the board in March 1997, after which the implementation started with a kickoff seminar having a very enthusiastic atmosphere in May, 1997.

According to the survey and the interviews in 1996, the situation at the school was more or less chaotic and user satisfaction was low. Several problems were identified:

- Incompatibility problems when users changed data between each others or with outsiders.
- The service level of IT center was found to be very low. The professionals were hard to reach and their attitude towards users was not adequate.
- Internal communication was not on a satisfactory level. The main method of informing the personnel was a leaflet delivered to everyone every 2–3 weeks.
- Some administrative processes were inefficient, this based partly on deficient information systems, partly on deficient working procedures, and partly on problems in human relationships.

The discussion concerning Macintosh versus Windows was quite lively. In the IT center, Mr. V was dedicated to serving all Mac users. As a matter of fact, Mr. V refused all assignments that were not Mac-related. He was a Mac enthusiast and promoted that option heavily. The choice between Mac and Windows was done by every user freely and seemed to be somewhat random. A kind of competition or even 'war' was going on. The students had both options: one of the four computer labs was supplied with Macs, and both systems were used in teaching, which was also based on the personal preferences of the IS teachers. For instance, lecturer T taught DSSs by using Excel in the Windows environment, but also PageMaker by using Macs.

Incompatibility was an everyday source of displeasure. Usually, problems came up when a Windows user received a file from a Mac user. The file could not be opened or the layout was damaged. The IT center was not very willing to help in these cases because of each person's antipathy against one of the two systems. Most users, however, were rather neutral and used the system they had incidentally received on their desks. Only a small—but loud—group of users participated in the "war." During the IMS planning process, Lecturer T's mailbox was the target of heavy 'bombing', with comments in favor of Macintosh. Lecturer T himself was quite indifferent on the matter: he liked Mac as a personal tool but understood very well the arguments towards organizational control.



## The Challenge of the IMS Planning Group

During TSE's planning process, many interviewees presented promising new ideas of using IT in research, teaching or administrative activities. Lecturer T realized that the full potential of resources—both human and technical—had not been exploited. As a university, TSE can be categorized as a “professional” organization, in Minzberg's (1991) typology. In this kind of setting, EUC should be the main focus of IT development, because usage typically takes the form of personal computing, for example, word processing.

The IMS planning group had to decide on future actions. Clearly, some dramatic change was required. Most users were annoyed with the current state of affairs, this being a result of a long history of “driftwood management.” Users understood that problems were resolvable if the IT services were organized in a new way. The IMS planning group faced a heavy stress on change and, on the other hand, a strong hopefulness and optimism concerning the future. The general technological development at that time (Internet usage growth, EUC growth, emerging e-learning technology, etc.) was changing the way universities operated. In terms of the strategic grid by MacFarlan (1984), the academic world was in a “turnaround mode”; IT was evolving from support to a more strategic role.

The selection of operating systems and basic software (i.e., applications that are used by every user) seemed to be the most crucial issue. Should the planning group suggest a monopolistic strategy or a laissez-faire strategy? So far, there had been no well-defined strategy, EUC had grown rapidly without management policies. This was the case in most organizations in the early stages of end user computing (Munro & Huff, 1988).

A monopolistic strategy had its supporters. Professor S, a strong person inside the school, promoted stability, because researchers and teachers are loaded every day with deadlines, and the tolerance against interruptions is quite low. Students as well as many researchers and teachers wanted the school to be a modern pioneer in deploying new technology. They were afraid that too much control would limit creativity.

The IMS planning group had to make a choice. Should stability be the objective, or creativity? These are justifiable but conflicting demands. Other issues where the planning group needed to take up a stand were at least the following:

- The organizing of user support. The current situation was unsatisfactory.
- The centralization versus de-centralization of IT services. Some departments were quite satisfied with the students they had hired for assistance. Some heads of departments even claimed that user support could be arranged in a more effective way by themselves instead of the IT center.
- The cooperation level with the IT centers of the University of Turku and Åbo Akademi University. TSE was clearly the smallest of the three universities in town and had the lowest number of users and IT professionals. On the other hand, IT investments per employee were higher in TSE than in the neighboring universities.
- The development of user skills. Most users were not satisfied with their ability to utilize the tools in their possession.
- The development of the infrastructure. Users were annoyed with e-mail interruptions as well as with their Internet connections or even the applications in their workstations. A more stable environment was required.

## IMS Approval and Implementation

After a planning process lasting four months, the working group formulated a suggestion for an IMS. The strategy, called IMS2000, was approved by the board in March, 1997. After that,

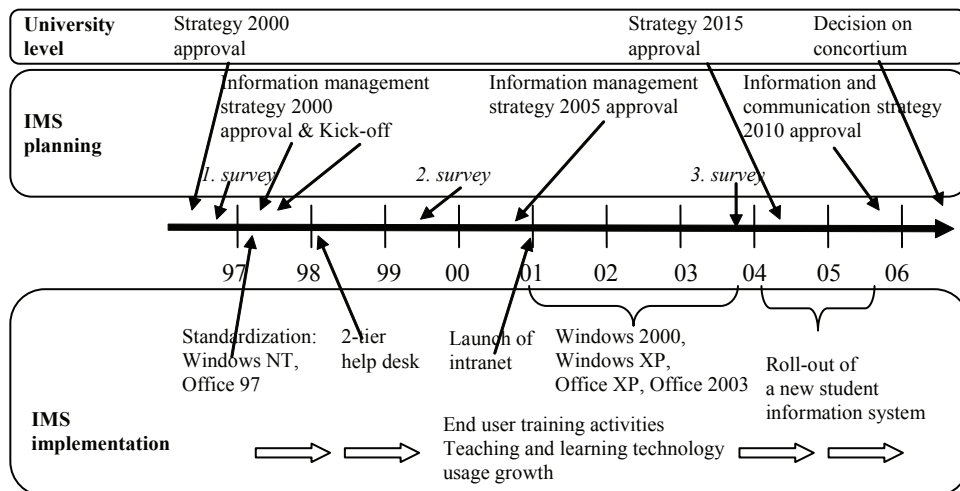
a strong and enthusiastic implementation project was started, focusing on development ideas presented in the strategy. The three most effective actions taking place were the following:

- The standardization of operating systems and office software. Windows NT and Office 97 were defined as the only options in use. Macintosh users were given one year to shift to a Windows environment.
- A two-tier help desk was established inside the IT center. A team consisting of part-time students was set up to take care of the front-end service, supported by the IT professionals as a back-end team. End users (both personnel and students) were provided with one contact point they could reach by phone, e-mail or visiting the office.
- An end user training program was launched. The IS teachers responsible for students' EUC courses agreed to teach personnel as well. The content of the training sessions was planned for each group (e.g., researchers) task-specific. Goals of the training should be linked to goals of the organization (Mahapatra & Lai, 2005), and the use of tools should fit the users' tasks (Goodhue & Thompson, 1995).

Figure 1 depicts the strategic development of IT in TSE since 1996. The process of planning the IMS2000 was described in detail. The resulting plan and its implementation covered the years 1997–2000. When coming to the end of this period, the Rector nominated a new working group to update the IMS, which was done quite smoothly and a new strategy, called IMS2005, was approved by the board of the school in December, 2000. In that point there were no major development efforts.

The recent history is as follows. In 2004, a new strategy for the school (Strategy 2015) was approved by the board. Consequently, a new IMS was to be written. The strategy called "Information and Communication Strategy 2010" was approved by the board at the end of 2005. This time the strategy includes all the "information services", i.e., IT services, communication services and library services. These services are offered by three separate administrative units now integrated tighter than before. At this point, the useless IT board was discontinued.

Figure 1. The strategic development of IT in TSE since 1996



## The Development in User Satisfaction

When planning the IMS first time in TSE, we carried out an UIS survey. The survey was then repeated in 1999 and again in 2003, and the results showed that the IMS process was quite successful. UIS represents the only measurements that were done: no economical input/output analysis is available. However, the IT budget has increased quite moderately since 1996.

The most interesting results from the surveys are presented in the following. They are scientifically interesting and exceptional because of the longitudinal nature of our study. We studied the user satisfaction before and after certain activities, so that we can draw conclusions of those activities' influence on user satisfaction. The response rates were so high that we may well regard the averages as the general opinion of the personnel as a whole (over 70 percent in 1996 and in 1999, about 40 percent in 2003). Satisfaction measures do not vary significantly between subgroups (Doll et al., 2004), and therefore no further subgroup analysis is required. Table 1 shows the averages of answers to selected questions. The average of all answers with the same kind of scale was 3.57. This figure represents a "general mental average" against which the average of a specific question may be contrasted.

Our study provides exceptional insight into the influence of standardization in the long run. The argumentation for strict control strategy is usually based, from the organizational development point of view, on rational thinking. The counter-arguments are usually based on user satisfaction, which is threatened by the power loss. Our case shows that, as a matter of fact, the control strategy increases the end user satisfaction in the long run. Such a strategy makes the user environment more homogenous and stabile. The stability is what users most desire, because it enables them to perform their tasks more efficiently and effectively. Our results, which strongly support this line of thinking, are presented in Figure 2. Also, the averages in Table 1 show the high and increasing importance of stability.

The main information management activities in TSE since 1996 have been standardization, the establishment of a help desk, end user training and the intranet launch (see Figure 1). User satisfaction measures show that these efforts have been worth taking. Figure 3 shows the clearly increased satisfaction to user support and Figure 4 to the training; averages in Table 1 show the same effect. The increase of computing skills (see Figure 5) based on self-assessment may be a consequence of training, but there may be other influencing factors as well.

## CURRENT CHALLENGES FACING THE ORGANIZATION

In this chapter, we shall shift the focus from past to present. Although the situation in the mid-00s is quite different than in 1996, there are certain similarities in the state of technological development and in the decision-making challenges of strategic IS planning. We will reveal the latest development in the literature of IT management, discuss Windows Vista as the most important issue of the current state of technology, and conclude with presenting the future challenges of IT management in TSE.

## Contemporary Issues in Management of EUC

The phenomena of EUC started in the early 1980s and became "business as usual" during the late 1990s. McLean and Kappelman stated already in 1993 that EUC was not an independent phenomenon anymore but rather is integrated in organizational computing. Later on, the management of EUC has not been in the core of IT/IS research or practical IT/IS management. During the last few years, the alignment of IT and business has become a very popular issue. End users receive and use IT services, and the crucial management question is how the organization uses resources to deliver a portfolio of services to the end users (Peppard, 2003). Zee (1998) stressed the cultural change in the role of the IT function: the focus was (at the end of the 1990s) mov-



Figure 2. The standardization policy: free choice of operating system (i.e. Windows versus Macintosh or Linux)

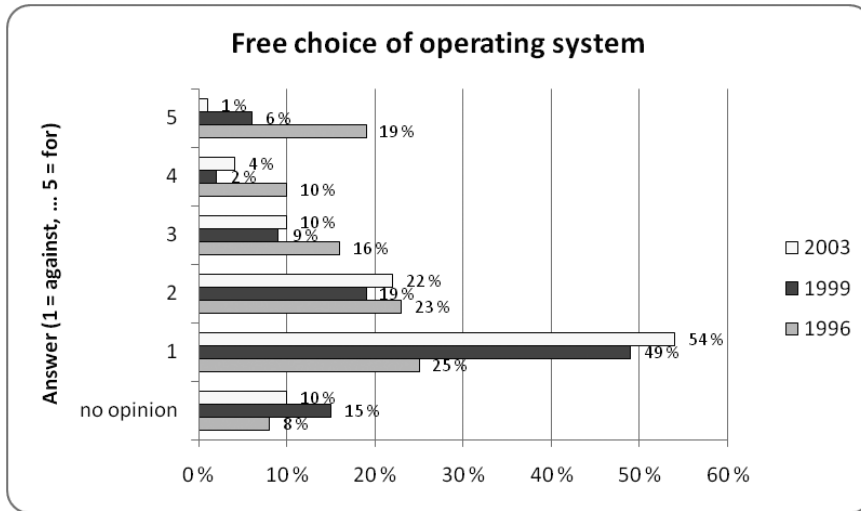


Table 1. Averages of answers in 1996, 1999 and 2003

Question	Average of answers 1996 (N=176)	Average of answers 1999 (N=169)	Average of answers 2003 (N=105)
<i>Selection of operating system:</i>			
Everyone should have the right to choose between Macintosh and Windows (1=Absolutely not, 5=Absolutely yes)	2.71	1.79	1.62
<i>Focus of development:</i>			
Importance of the stability of the workstation and its software (2 questions)	4.71	4.74	4.74
Importance of the stability of the network (2 questions)	4.09	4.15	4.44
Importance of workstation processing power	3.84	3.97	3.98
Importance of the novelty of software and hardware (3 questions)	2.88	2.80	2.46
Importance of user skills	4.17	4.27	4.35
Importance of www as a communication media (2 questions)	3.72	4.11	4.32
Importance of e-mail as a communications media (3 questions)	4.16	4.36	4.26
Importance of teaching technology (computer labs, audiovisual systems, etc. 4 questions)	3.88	4.05	4.07

Key: 1=Not at all important/Very dissatisfied, 5=Very important/Very satisfied (if no other explanation given)

continued on following page

Table 1. continued

Question	Average of answers 1996 (N=176)	Average of answers 1999 (N=169)	Average of answers 2003 (N=105)
<i>Satisfaction with IT services and management:</i>			
Satisfaction with the services offered by the IT center (12 questions)	3.35	3.52	3.52
Satisfaction with purchasing policies (5 questions)	3.96	4.18	3.79
Satisfaction with the desktop computer in use	4.21	4.49	4.19
Satisfaction with printers and other peripheral devices in use (3 questions)	3.63	3.88	3.51
<i>Satisfaction with own computing skills:</i>			
Satisfaction with personal skills in using e-mail (4 questions)	4.13	4.46	4.54
Satisfaction with personal skills in using the Internet (5 questions)	2.94	3.26	3.40
Satisfaction with personal skills in using operating system and computer in general (5 questions)	3.61	3.57	3.53
Satisfaction with personal skills in using general-purpose software such as Office (7 questions)	2.94	3.42	3.60
Satisfaction with personal skills in using library databases	2.89	n/a	3.74

Key: 1=Not at all important/Very dissatisfied, 5=Very important/Very satisfied (if no other explanation given)

Figure 3. Satisfaction with user support

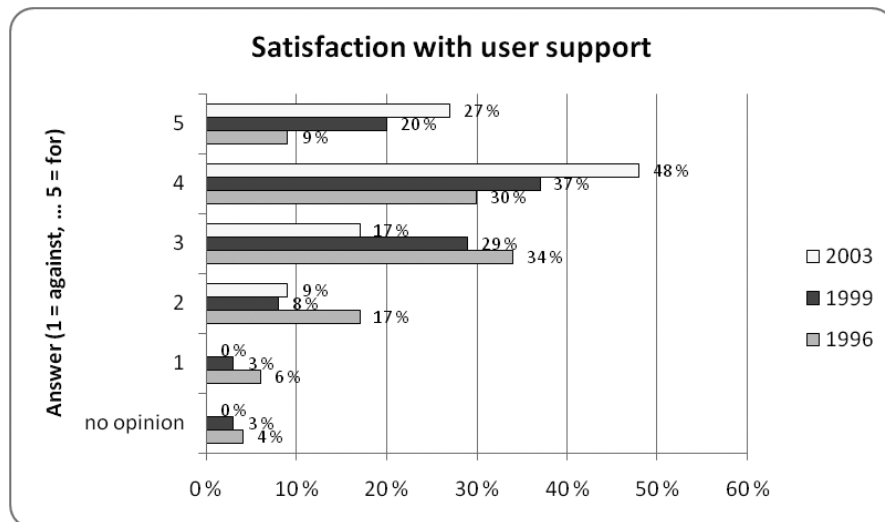
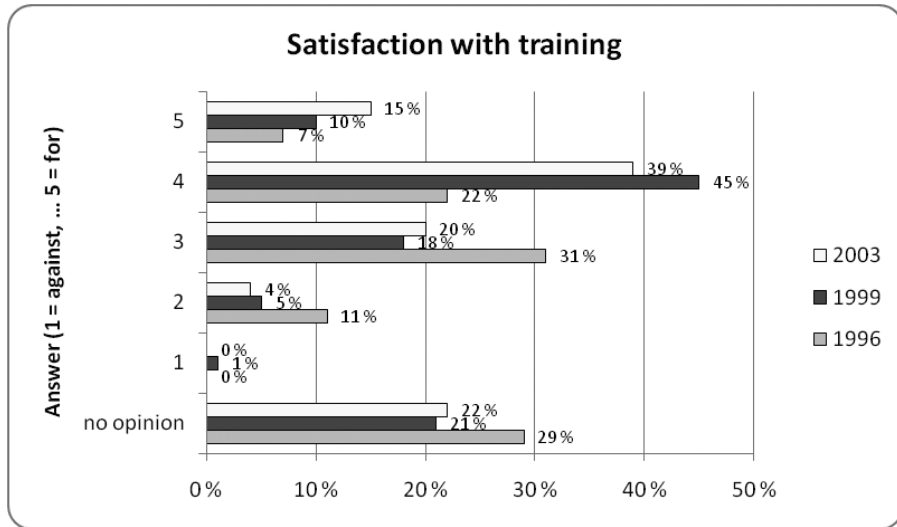


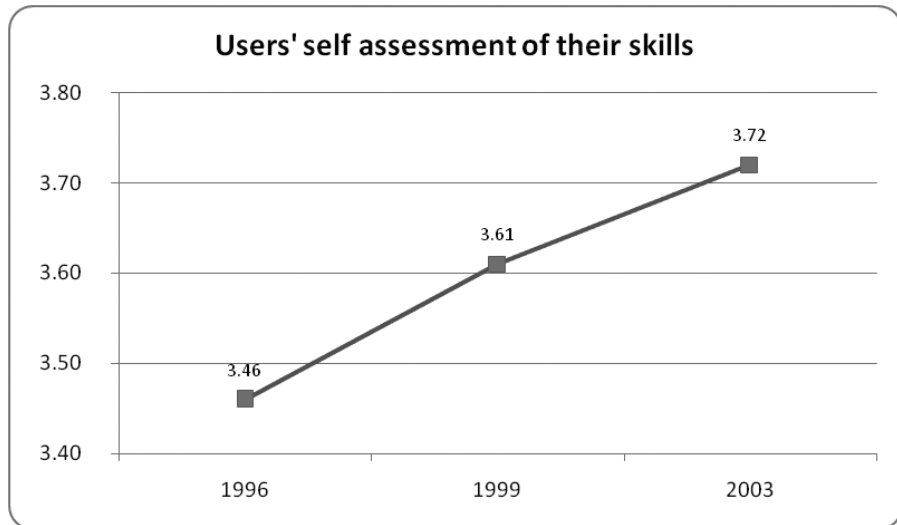
Figure 4. Users' satisfaction with training



ing towards customer orientation, that is, to the delivery of measurable and negotiable service products. The IS function was not to be treated anymore as the deliverer of computer systems but merely as a service provider (Peppard, 2003).

Discussion of satisfying end users' needs and achieving a balance of supply and demand of IT services has led to the concept of SLA—the service level agreement. It is an agreement between the supplier of an electronic service and the users of the service that defines and quantifies the minimum quality of service which meets business needs (Hiles, 1994). The service provider may be an internal IT/IS department, or the provision may be outsourced from an outside opera-

Figure 5. Users' self assessment of their skills (average of 21 questions)



tor. Outsourcing continues to grow as a business practice when ASP, Web hosting or other such services become more popular (Fitsilis, 2006).

The growth of users' needs is endless. They need more sophisticated support when skills improve (Guimaraes et al., 1999). At the same time, the improving cost-awareness of line management puts stress on leaning IT operations. These conflicting trends combined with the recent discussion on the "commodity character" of IT (Carr, 2003) have increased the requirements for IT/IS management. The use of "best practices" is becoming a common solution to respond to the growing requirements. IT service management methodologies and standards such as ITIL, COBIT, eSCM, BS 15000 or ISO 17799 are well-recognized in the business world.

These methodologies like ITIL certainly help IT management to organize services. ITIL is obtaining the role of a de facto standard, especially in Europe. It organizes IT service activities round two key process areas: service support and service delivery. The processes are well-defined in the ITIL literature and fairly easy to apply in any organization. However, there are some challenges in applying them. Forte (2007) notes that ITIL as such is insufficient and its overly blind utilization may mechanize processes and prevent the sound development of services. Feldman (2006) recommends analyzing the organization's own weaknesses and apply "best practices" such as ITIL only selectively where needed.

Although there is much evidence with regard to the advantages of SLAs in IT service management, research has identified major problems in applying them (Antonio, Arienzo, Esposito et al., 2004; Hiles, 1994; Trienekens, Bouman, & Van Der Zwan, 2004). Fitsilis (2006) categorizes these problems in two areas: problems related with traditional service level management, such as developing SLA semantic models; cost models; better understanding of SLA terms, and so forth; and problems that arise from technology and marketplace evolution such as SLAs for federated environments, for aggregated services and for on-demand services, and so forth. Trienekens et al. (2004) explain that the problems arise from SLA specifications: specification of effort versus specification of results, or unclear service specifications. Another mistake on the customer side is to make "dead-end" agreements that are not dynamic and prevent further development (Trienekens et al., 2004).

Problems with SLAs are apparently related to the lack of management skills in defining the needs of various services and dealing with vendors. The speed of technological development and emergence of new operation models such as ITIL have simply been too demanding for IT management—there is currently a lack of formalism in the specification and metrification approach (Trienekens et al., 2004). In that sense, the current circumstances are reminiscent of the situation during the early stages of EUC when companies failed to incorporate its management into strategic IS planning (Hackney, Kawalek, & Dhillon, 1999).

### **Windows Vista as the Next Challenge**

The technological mainstream during the last fifteen years has supported the implementation of various versions of Microsoft's Windows. In the mid-2000s, most organizations are using either Windows XP or Windows 2000 as the primary operating system: use of Macintoshes or Linux is rather marginal. After the launch of Windows NT (1996) and Office 1997, organizations faced a rather heavy transformation to the new environment, including infrastructure upgrade and user training. Since that time, the upgrades have been effortless. The next step, Windows Vista and Office 2007, is once again causing more pain.

There are widely reported advantages in the new operating system (Garcia, 2007; Malik & Perry, 2007; Potter, 2007; Stokely, 2007):

- A more reliable computing system.
- Increased manageability and better controlling tools for the administrators through dramatically improved Group Policy implementation.
- New ammunition to keep malware off the workstations.
- New technologies focused on keeping stored data safe.
- Glitzy 3-D windows are enjoyable for the end users.

However, companies are indecisive in implementing Windows Vista and Office 2007. The first sales figures after Vista's market launch were disappointing (Sliwa, 2007). The transformation will be troublesome for both IT departments and end users. Many companies are waiting for service packs and implementing new systems only one-by-one as new computers are purchased (Lewis, 2007). There are several good reasons for hesitation on the part of management (Malik & Perry, 2007):

- The new graphical interface does not really improve effectiveness, though is nice to have.
- The current stable environment will be disturbed during the transformation process.
- Compatibility updates by third party software and hardware vendors will take some time.
- End users are put to a new learning curve.

On the other hand, there is pressure to start the roll-out process, because Microsoft has announced that support for older operating systems will stop in 2009 (Malik & Perry, 2007). The promises of better security and other new features make the upgrade quite compelling. Many users and IT professionals are eager to benefit from the system. Decision-making will be based on opinions and emotions; no particular wisdom on when to start is available. Waters (2007) expects companies to first implement Office 2007 and then Vista. He predicts that Vista will be the last workstation-based operating system and the end of the PC era. An Internet-based, ASP type of software delivery may take over after Vista.

### The Future IT Services in TSE

In previous chapters, we have described a 10-year process of strategic IT development at a business school. Various development patterns could have taken place in, for instance, the use of Macintoshes or in organizing IT services. According to the satisfaction measures, the decisions made and actual actions taken may be considered rather successful. However, the standardization and training approach taken ten years ago may not be sufficient in the future situation. The modern method of standardization observes an SLA type of setting. Although it evidently has advantages, applying SLA in an organization may freeze the service to stay on the minimum acceptable level, where routine operations are well-supported but innovativeness does not flourish. The end users' own application development is increasing, and they deploy IT in more sophisticated ways, for example, by participating in wiki and blog-like environments (Ferneley, 2007). These new trends are contradictory to the standardization approach and may impair the balance of using and supporting services: that is, the relationships between the IT department and the user organization. End users want to be involved in IT development and decision-making: otherwise, authorities are resisted (Rondeau, Ragu-Nathan & Vonderembse 2006).

The main future challenge of information management in TSE is to respond to the organizational changes that the school quite probably will face during the next few years. A strong national development towards bigger university units is in progress in Finland. There are three universities in Turku, and thus a discussion of new structural options is natural. Due to language reasons<sup>1</sup>, the Swedish-speaking Åbo Akademi University will remain independent, though there



will be an increase in cooperation with the neighbours. TSE and the University of Turku are nevertheless forming a consortium with a common board. The new structure will apply in August, 2008. The actual form of the future organization is still under working development, but the main objective is to enhance cooperation in teaching and research.

Some restructuring of the administration may also be anticipated. Considering IT services, there are apparently several options that have to be investigated and evaluated in the near future. Examples of such options are:

- Continuing as before without any major changes,
- Merging the IT/IS departments of TSE and the University of Turku,
- A new kind of division of responsibilities between the IT/IS departments of these two universities, or
- Selective outsourcing of IT services (e.g., infrastructure maintenance).

In a situation where the future structure of the organization is blurred, the strategic planning of IT is extremely difficult. On the other hand, the general development of technology is requiring rather urgent charting of the roadmap in infrastructure development. The (possible) transition to Windows Vista and Office 2007 is a heavy process that requires all the resources the school can allocate. In TSE's case, external pressures, technological pressures and end users' increasing requirements are now challenging the strategic information systems planning.

## REFERENCES

- Aggarwal, A.K. (1994). Trends in end-user computing: A professional's perspective. *Journal of End User Computing* 6(3), 32-33.
- Antonio, S. & Arienzo, M. & Esposito, M. & Romano, P. & Ventre, G. (2004). Managing service level agreements in premium IP networks: a business-oriented approach, *Computer Networks*, 46, 853-866.
- Bailey, J.E. & Pearson, S.W. (1983). Development of a tool for measuring and analysing computer user satisfaction. *Management Science*, May 1983, 519-529.
- Carr, N.G. (2003). IT doesn't matter. *Harvard Business Review* May 2003.
- Cotterman, W.W. & Kumar, K. (1989). User cube: A taxonomy of end users. *Communications of the ACM*, Nov 1989, 1313-1320.
- Doll, W.J. & Torkzadeh, G. (1988). The measurement of end-user computing satisfaction. *MIS Quarterly* 12(2), 135-159.
- Doll, W. J., Deng, X., Raghunathan, T.S., Torkzadeh, G., & Xia, W. (2004). The meaning and measurement of user satisfaction: A multigroup invariance analysis of the end-user computing satisfaction instrument. *Journal of Management Information Systems* 21(1), 227-262.
- Duchesi, P. & Chengalur-Smith, I. (1998). Client/server benefits, problems, best practices. *Communications of the ACM*, May 1998, 87-94.
- Feldman, J. (2006). Don't get burned. *Network Computing Sep 2006*, 28-34.
- Ferneley, E.H. (2007). Covert end user development: A study of success. *Journal of Organizational and End User Computing* 19(1), 62-71.
- Fitsilis, P. (2006). Practices and problems in managing electronic services using SLAs. *Information Management & Computer Security* 14(2), 185-195.

- Forte, D. (2007). Security standardization in incident management: the ITIL approach. *Network Security Jan 2007*, 14-16.
- Gerrity, T.P. & Rockart, J.F. (1986). End-user computing: Are you a leader or a laggard. *Sloan Management Review, Winter 1986*, 3-14.
- Goodhue, D.L. & Thompson, R.L. (1995). Task-technology fit and individual performance. *MIS Quarterly 19(2)*, 120-236.
- Guimaraes, T., Gupta, Y.P., & Rainer, R.K., Jr. (1999). Empirically testing the relationship between end-user computing problems and information center success factors. *Decision Sciences 30(2)*, 393-413.
- Hackney, R., Kawalek, J., & Dhillon, G. (1999). Strategic information systems planning: Perspectives on the role of the "end user" revisited. *Journal of End User Computing 11(2)*, 3-12.
- Halloran, J.P. (1993). Achieving world-class end-user computing: Making IT work and using IT effectively. *Information Systems Management, Fall 1993*, 7-12.
- Henderson, J.C. & Treacy, M. E. (1986). Managing end-user computing for competitive advantage. *Sloan Management Review 27(4)*, 25-34.
- Henderson, J.C. & Venkatraman, N. (1992). Strategic alignment: A model for organizational transformation through information technology. In T.A.Kocham & M. Useem (Eds.), *Transforming organizations*. New York: Oxford University Press..
- Hiles, A. (1994). Service level agreements: panacea or pain? *The TQM Magazine 6(2)*, 14-16.
- Igbaria, M. (1990). End-user computing effectiveness: A structural equation model. *Omega 18(6)*, 637-652.
- Kettinger, W. J. & Lee, C.C. (2002). Understanding the IS-user divide in IT innovation. *Communications of the ACM, Feb 2002*, 79-83.
- Leonard, A.C. (2001). The importance of the IT—End user relationship paradigm in obtaining alignment between IT and the business. In R. Papp (Ed.), *Strategic information technology*. Hershey: Idea Group Publishing.
- Mahapatra, R. & Lai, V.S. (2005). Evaluating end-user training programs. *Communications of the ACM 48(1)*, 66-70.
- McFarlan, F.W. (1984). Information technology changes the way you compete. *Harvard Business Review, May-June 1984*, 98-103.
- McLean, E.R. (1979). End users as application developers. *MIS quarterly, Dec 1979*, 37-46.
- McLean, E. & Kappelman, L.A. (1993). The convergence of organizational and end-user computing. *Journal of Management Information Systems Winter 1992-1993*, 145-155.
- Minzberg, H. (1987). Crafting strategy. *Harvard Business Review 65(4)*, 66-75.
- Minzberg, H. (1991). The effective organization: forces and forms. *Sloan Management Review 32(2)*, 54-67.
- Munro, M.C. & Huff, S.L. (1988). Managing end-user computing. *Journal of Systems Management, Dec 1988*, 13-18.
- Peppard, J. (2003). Managing IT as a portfolio of services. *European Management Journal, 21(4)*, 467-83.

Reponen, T. (1994). Organisational information management strategies. *Information Systems Journal*, 1994(4).

Rondeau, P.J., Ragu-Nathan, T.S., & Vonderembse, M.A. (2006). How involvement, IS management effectiveness, and end-user computing impact IS performance in manufacturing firms. *Information & Management* 43, 93–107.

Rockart, J.F., & Flannery, L.S. (1983). The management of end-user computing. *Communications of the ACM*, October 1983, 776-784.

Smith, H. & McKeen, J. (1992). Computerization and management: A study of conflict and change. *Information management*, Jan 1992, 53-64.

Trienekens, J., Bouman, J. & Van Der Zwan, M. (2004). Specification of service level agreements: problems, principles and practices. *Software Quality Journal* 12, 43-57.

Zee, H.T.M. (1998). Rejuvenating the IT supply organization. *Information Management & Computer Security* 6(2), 55–65

Zee, H.T.M. & Jong, B.D. (1999). Alignment is not enough: Integrating business and information technology management with the balanced business scorecard. *Journal of Management Information Systems* 16(2), 137-156.

## Articles in Newspapers or Net Bulletins on Windows Vista

Garcia, A. (2007). Prepare for vista future. *eWeek*, Jan 29, 2007, 40.

Lewis, P. (2007). Microsoft vista: Should you buy now? *Fortune*, Jan 29, 2007.

Malik, K. & Perry, D.K. (2007). Should enterprises implement windows vista right away? *Optimize*, 6(5), 18-19.

Potter, B. (2007). Running vista—big OS, big change. *Network Security*, Jan 2007, 17-18.

Sliwa, C. (2007). Users not rushing on vista, Office 2007. *Computerworld*, Jan 29, 2007, 16.

Stokely, S. (2007). A new vista. *Intheblack*, Feb 2007, 52-53.

Waters, R. (2007). Vista marks end of an era for Microsoft. *The Financial Times*, Jan 28, 2007.

## ENDNOTE

<sup>1</sup> Both Finnish and Swedish are official languages in Finland. Approximately five percent of the population speaks Swedish as their mother tongue, and they have relatively substantial political power.

*Timo Leino is a lecturer of information system science at the Turku School of Economics, Finland. He has long experience in teaching information management, strategic information systems planning, end- user computing, and decision support systems. He has worked two years as a CIO. He has carried out action research in several projects at many companies, dealing mostly with the strategic planning of IT management. Dr. Leino has worked in international scientific communities, attending several IS and DSS conferences and presenting papers, as well as working as the editor of proceedings or as a member of the organizing staff.*

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.