<http://www.diva-portal.org>

Postprint

This is the accepted version of a paper published in *New Media and Society*. This paper has been peer-reviewed but does not include the final publisher proof-corrections or journal pagination.

Citation for the original published paper (version of record):

Hrastinski, S., Monstad, T. (2014)

Exploring the relationship between the use of an interactive video website and organizational learning.

New Media and Society, 16(4): 594-614

<http://dx.doi.org/10.1177/1461444813487961>

Access to the published version may require subscription.

N.B. When citing this work, cite the original published paper.

Permanent link to this version:

<http://urn.kb.se/resolve?urn=urn:nbn:se:kth:diva-147033>

Exploring the relationship between the use of an interactive video website and organisational learning

Stefan Hrastinski*
KTH Royal Institute of Technology

Therese Monstad
Uppsala University

Abstract

In this paper, we explore the impact of the use of an interactive video website, comprising videos promoting a company's core values, on organisational learning. More specifically, we studied how the use of a video website affected the awareness of a company's core values and whether or not this would also influence the behaviour of the employees. Two web surveys were designed for the study. The first survey was conducted prior to introducing the video website. The second survey was a follow-up survey in order to assess cognitive and behavioural effects. As a complement, we also conducted focus groups. We identified a slightly negative effect on cognition and behaviour. A number of factors that might explain the negative effect were identified. Employees that perceived themselves as active participants were more likely to prefer video, were more satisfied, and perceived greater positive effect on cognition and behaviour.

Keywords: Video website, web 2.0, work-place learning, organisational learning, cognitive development, behavioural development, internal communication.

1 INTRODUCTION

IT is increasingly used for internal communication. Often, employees drive this development by, for example, communicating with colleagues by using social media. In other cases, IT is introduced and promoted by the management of an organisation. In the study of this paper, the senior management of a biotechnology and medical company decided to introduce an interactive video website with functionality that is similar to YouTube. The project was inspired by web 2.0 technologies, which are characterised by ‘users’ propensity to construct content in the form of information and media products for the web environment’ (Harrison & Barthel, 2009: 155). Employees can watch and rate videos, post questions and share opinions regarding the content. We will refer to this technology as an *interactive video website*. The interest in video technologies has surged as IT infrastructures and network capacities have improved. Surprisingly, there have been rather few studies on such emerging technologies in organisational settings. Videos that give a background to and describe the core values of the company have been produced. The reason for focusing on the core values was that the senior management felt that the awareness of the values, and how the values can guide work, needed to be improved. Over the last few years, the founder and senior management felt that the company stagnated and that the spirit of the enterprise had been lost. By implementing company core values with the overall focus on the entrepreneurial spirit, they believed that the employees’ attitudes and behaviour could improve. Also, they hoped that the employees would become more innovative.

Figure 1 about here.

Many scholars have stressed the importance of *values* and their effect on organisational performance over the years (Baum, Locke & Kirkpatrick, 1998; Collins & Porras, 1996; Ferguson & Milliman, 2008; Lencioni, 2002; Pattakos, 2004). Core values can be defined as describing what is important for a company and they can be used to guide employee behaviour and to empower employees (Begley & Boyd, 2000; Ferguson & Milliman, 2008; Lencioni, 2002). A thorough implementation of carefully prepared values can lead to success while meaningless values might be destructive (Lencioni, 2002). Core values are at the heart of an organisation’s culture (Begley & Boyd, 2000; Ferguson & Milliman,

2008) while they are also influenced by an organisation's surrounding culture. Our case company decided that it was time to enhance the employee's knowledge about the company core values with the purpose to regain the entrepreneurial spirit in the company. In this case the activities to regain the entrepreneurial spirit involved a decentralization process.

De Geus (1997) argues that centralization of power is inappropriate for an organisation and that it reduces the organisation's learning capacity. Though it was not until the mid twentieth century that organisations in the industrialized world started to intrinsically take this into account. It is also since then that Swedish organisational culture rests in a tradition of continuous attempts to implement democratic processes for employee participation in organisational management (Westenholz, 2003). This is a complex process where three institutional logics; professional communities, collective bargaining and co-management, have been present although with different importance throughout the period (Westenholz, 2006). Hofstede (1980) has described the Swedish organisational culture as having little need to avoid uncertainty and with small power distance. Employees are given a large amount of trust (Sjöberg & Tollgerdt-Andersson, 1991). These characteristics would set the stage for an entrepreneurial spirit to prosper, with empowered employees who take charge of their own work tasks. However, the Swedish organisational culture has also been described as being collectivistic in comparison to the more individualistic Anglo-Saxon organisational culture and many of the attempts to empower individual organisational members have therefore failed (Westenholz, 2006). This may speak against the success of regaining the entrepreneurial spirit. The core values, 'simplicity', 'professionalism' and 'innovation', were presented in four videos. In the first video, the history of the company was presented and it was emphasized that the core values have been important over the years, ever since the company was established. The founder of the company set up the business through these core values. The remaining three videos each presented one core value.

In this paper, we explore the impact of the use of an interactive video website on organisational learning (OL). More specifically, we will explore how the use of the video website affected the awareness of a company's core values and whether or not the behaviour of the employees was influenced. While there is some literature on the relationship between IT on OL (for a review, see

Robey, Boudreau & Rose, 2000), the relationship between emerging video technologies and OL has not been sufficiently explored. We extend previous research that has mainly been focused on text-based knowledge management systems, such as knowledge repositories of best practices, and communication systems, such as e-mail and groupware (Kane & Alavi, 2007; Robey et al., 2000).

While there are a number of competing theories that attempt to explain development, learning and change in organisations, the OL field has consistently emphasized these processes over the years (Argyris & Schön, 1978; Fiol & Lyles, 1985; March, 1991). The basic building block of most theories and models of OL is *cognitive* and *behavioural development* (Fiol & Lyles, 1985; Templeton, Lewis & Snyder, 2002). Cognitive development is commonly referred to as learning level (Fiol & Lyles, 1985) and can be described as developing shared understanding among members of an organisation (Hedberg, 1981). Behavioural development is often referred to as change level (Fiol & Lyles, 1985) and can be described as the change of behaviour and actions of members of an organisation (Argyris & Schön, 1978; Daft & Weick, 1984). Similarly, Argyris and Schön (1978) differentiate between espoused theories, i.e., theories we can state verbally, but which do not necessarily affect our behaviour, and theories-in-action, i.e., theories that actually affect our behaviour. The choice of theoretical perspective has both benefits and limitations. There are of course many other theories that can be used when studying learning in organisations. For example, Wenger (1998) describes situated learning as social participation in communities of practice. If we had departed from a social learning perspective, we would have gained a deeper understanding of the social process of learning. However, as the purpose of the study was to focus on how the use of the video website affected the awareness of a company's core values and whether or not the behaviour of the employees was influenced, we decided to use OL as a theoretical lens.

To explore the effects of the interactive video website on OL, we investigate the effect on cognition and behaviour, because these are established concepts and make it possible to extend previous research. This makes it achievable to validate previous research in a new setting, contribute to developing a cumulative research tradition, and enables deeper exploration of foundational ideas (Kane & Alavi, 2007). More specifically, we explore how the video website can support or hinder

cognition and behaviour, and posit the following questions: How and why does the use of the video website support or hinder an increased awareness of the company's core values? How and why does the use of the video website support or hinder behaviour change?

In the section below, previous research on IT, interactive video and OL is reviewed, and it is reflected on possible effects of using the video website. Then, the research setting and methods of the study are discussed. In the fourth section, we present results based on the two surveys, complemented with results from focus groups. Finally, we discuss our findings, put forth limitations and suggestions for further research.

2 INTERACTIVE VIDEO AND ORGANISATIONAL LEARNING: LEARNING THROUGH TRANSMISSION OR INTERACTIVITY?

In this section, we first review research on IT and organisational learning (OL) and then discuss the potential impact of interactive video on learning. The section is concluded with a reflection on to what extent the interactive video website might support transmission versus interactivity.

2.1 Information technology and organisational learning

The relationship between IT and OL is important because of the potential to affect organisational outcomes positively. In the literature on IT and OL, there are two streams of research: studies that apply OL concepts for implementing and using IT in organisations and studies focused on the design of IT applications to support OL (Robey et al., 2000). This study contributes to both streams by evaluating the use of a new interactive video website in an organisational setting.

Information has the potential to support and stimulate learning and therefore it has been argued that IT can enable and facilitate OL (Janson, Cecez-Kecmanovic & Zupančič, 2007; Robey et al., 2000). IT can effectively be used to support attributes of OL, such as acquiring, sharing, modifying, interpreting and storing information and knowledge (Templeton et al., 2002). Differences in OL when using IT can be related to characteristics of employees, such as individual learning rates (Kane & Alavi, 2007; March, 1991). For instance, IT may support OL in some situations (e.g., with fast learners) but may be

ineffective or even hampering in other situations (e.g., with slow learners). IT has therefore been described as a double-edged sword, because it has the potential to both help and hinder learning (Kane & Alavi, 2007; Robey et al., 2000).

Previous research suggests that successful use of IT as support for OL is dependent on the intertwining of both technical and organisational factors (Kane & Alavi, 2007). The right IT-enabled learning mechanisms employed under the right conditions can benefit OL. However, the wrong mechanisms for particular conditions can be detrimental (Kane & Alavi, 2007). Thus, IT and its effect on OL can only be fully understood by examining the ways it is activated in organisational contexts (Leonardi, 2007). Members of organisations often use IT in different ways than managers or system designers intended (Orlikowski, 1996). By adopting the social information processing model (Salancik & Pfeffer, 1978) when studying how organisational members use media, scholars found that members of a work group shared similar attitudes toward IT and use IT in similar ways (Fulk, 1993; Fulk, Steinfield, Schmitz & Power, 1987). Another study by Fulk (1993) found that social influences on attitudes toward the use of IT are stronger if members of a work group are attracted to each other.

Particular tools, such as information repositories, where information can be stored and retrieved, promote homogeneity and tend to result in improved learning for the short term. Other tools, such as online communities, which connect employees who share common interests, promote heterogeneity and exploration and tend to lead to better long-term results, but are less effective for leveraging knowledge in the short term (Kane & Alavi, 2007). Robey et al. (2000) argue that communication technologies are useful for supporting organisation-wide communication, which may support questioning of static assumptions and creation of new knowledge. However, Thompson (2011) criticizes the web 2.0 rhetoric, i.e. the assumed re-positioning of people from consumers to producers, based on a study of online work-learning practices. The respondents of her study often found information in online forums but did not treat it differently than information found on a 'static' web page.

2.2 Interactive video and learning

As noted in the introduction, the interest in video technologies has surged as IT infrastructures and network capacities have improved. However, there have been remarkably few studies on such emerging technologies in organisational settings. Studies that focus on organisational settings and emerging technologies emphasize the impact of technologies on the interaction between corporations and their stakeholders, e.g. employees, shareholders and customers (Argenti, 2006; Vielhaber & Waltman, 2008). When reviewing research, we learned that most recent studies on video focused on technical issues, video conferencing or the use of video in educational settings. Studies on YouTube and similar technologies are also emerging, although we identified few such studies in organisational settings.

In a literature review on learning from video, Cennamo (1993) identified three key factors that can be expected to influence learning. First, characteristics of the media, such as the content of the videos and the questions for discussion. Second, characteristics of the user, such as the perception of the usefulness of interactive video. Third, characteristics of the task, such as the purpose for which interactive video is used. Previous research has indicated that visual information is more memorable and that the combination of audio and visual information can increase comprehension and retention (Baggett, 1984; Kozma, 1991). These findings are supported by a study with 147 psychology students. The study reported that digital video was more effective than text for presenting real-life situations in order to enhance learner satisfaction, comprehension and retention (Choi & Johnson, 2007). In studies of a management course and an English course, it was argued that digital video promoted contextual aspects of learning (South, Gabbitas & Merrill, 2008) and emotional involvement in the learning process (Hakkarainen, Saarelainen & Ruokamo, 2007). South and colleagues (2008) argue that digital video can provide situated cognition, i.e. connecting knowledge to relevant activities, contexts and cultures in which it is used (Brown, Collins & Duguid, 1989). When they compared video with a face-to-face setting, it was concluded that the first setting was characterized by learning through reflection, while the latter setting included more collaboration and conversation. In a study of YouTube, Lange (2008) suggested that social network technologies may need to support publicity or privacy depending

on different individuals' and groups' social needs. She argued that technical features could beneficially give users control in deciding whether to create public or private interactions, which may stimulate participation.

OL theorists have, however, argued that mass communication, such as video messages, or mass meetings where managers communicate core values, are often not sufficient. Top-down communication is then applied and the transmission view on communication is in focus. Members of the organisation commonly hear very different things in these situations and therefore the expectations of senior management are often not met (Schein, 1993). Successful organisational change communication is instead based on the creation of opportunity for the organisational members to be part of the communication and contribute to the organisational framework (Langer & Thorup, 2006; Weick, Sutcliffe & Obstfeld, 2005). Similarly, it has been found that psychological empowerment can be enhanced by one's degree of content generation on the Internet (Leung, 2009). Weick (1979) is among the scholars that have gone as far as to argue that communication constitutes organisations and that people organise in order to solve equivocal information. A transmission view, i.e. top-down communication with the idea of the organisation as a single body and the senior management's voice as the one and only (Langer & Thorup, 2006), would in that sense be fatal for the organisation. Further, work place learning is also dependent on the informal learning that takes place in the offline and online spaces surrounding activities with a more formal purpose (Eraut, 2004).

In order to avoid the transmission view, our case company has encouraged the members of the organisation to ask questions and discuss the content of each video. The use of the interactive video website has the potential to promote homogeneity and short-term learning of the company's core values, but also long-term learning as the website promotes sharing of ideas of how to apply the core values in practice. Shifman (2012) investigated attributes common to YouTube videos that generated extensive user engagement. The following six common features were identified: focus on ordinary people, flawed masculinity, humour, simplicity, repetitiveness and whimsical content. The videos were typically incomplete or flawed, which led to further dialogue.

The interactive features of the website have the potential to, but will not necessarily, support discussion and exploration of ideas. Questions, such as how a particular aspect of the core values can be implemented in the daily work, are suggested for discussions on the website. Employees are not mandated to adjust their work in a particular way in order to incorporate the core values but are instead given examples, which may encourage them to find their own way of applying the core values in their daily work. At the same time they may be inspired to share their own ideas.

3 RESEARCH SETTING AND METHOD

This study can be characterized as an explorative case study conducted in a naturalistic setting (Robson, 2002). The company studied in this project is a biotechnology and medical device company that primarily develops, manufactures, markets and sells medical products. It was founded in 1987 and has grown rapidly ever since. In October 2008, the company had 480 employees at the company's head office and production facility in Sweden. The number of employees had been reduced to 359 in March 2010. Traditionally, meetings have been organised regularly which most staff has attended. However, with company growth, these meetings turned into information meetings with a transmission view in focus, i.e. the senior management was informing the staff but there was little room for discussions and questions from the staff. The senior management was therefore searching for new communication forums where questions and feedback from the staff were better supported and encouraged. This has included the use of an intranet and, more recently, the introduction of an interactive video website described above and four video productions.

The website and videos were produced by a company specialized on audio, video and website development. They received a grant from an agency of economic and regional growth and contacted the authors in order for the interactive video website to be evaluated in practice. It was jointly agreed that the medical device company would be used as case study setting. We have studied the use of an interactive video website in practice, which is a technology many organisations are attempting to leverage, rather than conducting action research. Thus, the study contributes by gaining a deeper understanding of the opportunities and challenges that are facing organisational use of such

technologies. As noted by Kanuka (2008), there is a risk that there was incongruence between the beliefs and actions of the practitioners and theoretical knowledge of how IT and interactive video websites can support learning.

A video website was preferred over streaming video, because of the potential to support discussion and contributions from employees. The videos describe the company core values and include employee stories. The reason for focusing on the core values was that the senior management felt that the awareness of the values, and how the values can guide work, needed to be improved. With these stories, employees give examples on how they implement company core values into their daily work. The employees were given the opportunity to comment on the videos, ask questions and rate the content. It was not compulsory to use the website and the discussions were not moderated. It was possible to give anonymous comments, although all participants have at least stated their first name. The question is if the interactive video website can support OL and lead to greater integration of company core values into the daily work of the employees.

3.1 Quantitative data collection

Two web surveys were designed for the study. The first survey was conducted in October 2008 prior to introducing the video website. The second survey was conducted in March 2010, after the introduction of the website and the four videos. By comparing the results of the surveys, we can explore the effects of the use of the video website on OL. The development and validation of measures of OL is an important research contribution in itself as the most critical area of importance has been argued to be the development of methods for measuring OL and the impact of learning on organisations and their performance (Lyles & Easterby-Smith, 2003). A new video was to be released every second month. However, due to downsizing within the company and other organisational changes, the release of the videos was delayed and the time between each release varied. The first questionnaire collected descriptive data describing the respondents, their preferred modes of communication, and perceived cognitive and behavioural development. It also included measures on cognition and behaviour in relation with the company's core values. The second questionnaire also

included measures on participation and involvement, and employee satisfaction when using the video website. All measures were reported on a seven point Likert scale.

For *cognition*, we drew on the concept of cognitive development (Fiol & Lyles, 1985), defined as developing shared understanding among members of an organisation (Hedberg, 1981). Shared beliefs play a vital role for enabling the improvement of actions across an organisation (Senge, 1990). However, cognitive development does not necessarily reflect behavioural development (Fiol & Lyles, 1985). For example, in the study of this paper, the use of the video website might support an increased awareness of the company's core values but this does not necessarily mean that the organisational behaviour will change. The measure included six items and achieved a high level of reliability (Cronbach's $\alpha = 0.90$). For example, one item stated: 'I can describe the company's values for a friend'.

For *behaviour*, we built on the concept of behavioural development (Fiol & Lyles, 1985), defined as the change of behaviour and actions of members of an organisation (Argyris & Schön, 1978; Daft & Weick, 1984). Behavioural development does not necessarily reflect cognitive development (Fiol & Lyles, 1985). For example, in the study of this paper, the use of the video website might stimulate employees to reflect on work practices, but behavioural changes do not necessarily reflect the company core values. We created eight items. The measure achieved a high level of reliability (Cronbach's $\alpha = 0.86$). For example, one item stated: 'I work on the basis of the company's values'.

We also included a measure on *satisfaction* in the second questionnaire. It is important to assess whether or not employees enjoy using the video website. If employees do not want to use the website it is unlikely that it will support OL. The measure mainly included items adapted from Webster and Hackley's (1997) survey instrument. The measure achieved a high level of reliability (Cronbach's $\alpha = 0.86$). For example, one item was: 'I will not use the web site in the future' (reverse-coded).

Finally, we also included a measure on *participation and involvement* in the second questionnaire. We were interested in exploring whether or not the use of the video website supported heterogeneity, where employees contribute and share ideas, which has been argued to be one of the key dimensions

of OL (Robey et al., 2000). The measure was inspired by Webster and Hackley's (1997) survey instrument. Based on a literature review, they recommended that online learning should typically be conducted through active involvement by participants. In our study, this was measured as whether the respondents felt engaged, appreciated the opportunity to comment, provided comments and enjoyed communicating with colleagues. The measure achieved a high level of reliability (Cronbach's alpha = 0.90). For example, one item was: 'I felt engaged in the discussion of the company's values'.

Descriptive data for the respondents is presented in table 1. It was estimated that 450 employees were located at the Swedish site when the first questionnaire was distributed. A majority of the employees completed the questionnaire (n=280, 62%). When the second questionnaire was distributed, 359 employees were part of the Swedish site because of downsizing. Out of these, 147 (41%) responded – 137 (95%) had seen the videos and 18 (13%) had contributed with comments. Their mean age was 40 years and they had worked at the company for five years. Most respondents used computers and the Internet everyday or several times per week, and they used YouTube a couple times per month.

[Table 1 about here.](#)

3.2 Qualitative data collection

Rather than simply surveying whether or not OL took place, there is also a need to explain how and why the video website initiative affected cognition and behaviour. The qualitative data collection method was focus groups. These were conducted in order to gain a deeper understanding of survey answers and include opinions that the employees could not express when completing the questionnaires. We also had access to the video website in order to study how it was used. Comments and discussions on the video website were stored and subsequently reviewed. This made it possible to gauge the level of interactivity as we could identify, not only the number of comments or questions, but also the frequency of comments and questions referring to earlier communication, i.e. third-order dependency (Kioussis, 2002).

The focus groups took place May 18 and 27, 2010. The sessions lasted between 50 and 70 minutes. They were audiotaped and the moderator also took notes throughout each session. The audiotaped

material was transcribed and the notes were considered. We had planned to organise six focus groups divided into three segments (Morgan, 1997; 1998); research and administration in one group, middle managers in another group and employees from the production line in a third group. We had two reasons for arranging the focus groups this way; the first reason was that we were interested in finding out if there were any response differences depending on where in the organisation employees were working and the second reason was that we wanted the employees to feel at ease, which is usually easier to achieve if the employees find themselves in a group of peers (Morgan, 1998). However, due to organisational turbulence and downsizing taking place at the same time as this study it was not possible to carry out six focus groups sessions.

We worked around this issue by selecting four focus groups instead of six; two groups with employees from the production line, one group with employees from research and administration and one group consisting of employees from middle management. The total number of focus groups participant was 15 and the number of participants in each focus group varied from two to five. The transcripts and notes were read and re-read and the data was confronted with the concepts of cognitive and behavioural development, satisfaction, as well as participation and involvement, described above. As we were also interested in identifying potential similarities or differences across groups we analyzed segment diversifications in the arguments and descriptions (Soderstrom, 2011). The authors have translated enclosed quotes into English as the focus group discussions were carried out in Swedish.

4 RESULTS

4.1 Satisfaction and preferred means of communication

The employees seemed ambivalent regarding the benefits of the interactive video initiative. The total mean for the satisfaction measure was 4.5 (see table 2). Overall, they slightly agreed that the video web site was suitable for learning about the company's values (M=4.7) and that it is a good channel for internal communication (M=4.6).

Table 2 about here.

The respondents were also asked how they felt they had gained information about the company's values (see Table 3). Prior to this study, one web video had been distributed to the staff by sending a link by e-mail. In the video, the CEO discussed the future of the company and the company's core values. Almost half (41%) felt they had gained information concerning the company's core values through web video, while this figure had increased significantly to 67 percent after the interactive video initiative (Chi-square (d.f. = 1) = 25.3, $p < .001$). The respondents were also asked which their preferred means of communication were (see Table 4). Most employees preferred other means of communication as compared to web video, although there was a slight and significant decrease in the percentage of employees that preferred web video as means of communication (Chi-square (d.f. = 7) = 28.4, $p < .001$).

Table 3 about here.

Table 4 about here.

In the focus groups, we learned that many of the participants gained information about the core values via the video website, while some participants were not even aware of the website. When discussing the preferred means of communication, the focus group participants agreed that face-to-face meetings, in one way or another, are usually preferred. However, sometimes email, a phone call or another means of communication might be more suitable. It all depends on the content and how much engagement that is expected from the involved parties.

'E-mail can be a good way to establish contact. However, there are often questions on what's coming ... so the ultimate contact is often at a meeting when you have the opportunity to ask questions.' (Middle manager D)

4.2 Participation and involvement

Very few employees commented the videos. The number of posted comments and questions ranged between one and ten for each video. This resulted in a total of only 21 comments. These were brief comments on the video rather than discussions that extended the content of the video. There was only

one short discussion, which concerned what language (English or Swedish) to use when producing videos. The limited interactivity is reflected in the low mean for the participation and involvement measure ($M=3.6$, see table 5). Moreover, the employees did not feel that the web videos on the company's history and core values led to increased discussion at work ($M=3.3$). This finding was also confirmed in the focus groups.

'Well, discussions... No, not really the content but more, "Have you seen the movie? It is well done, how fun", and similar comments.' (Middle manager C)

Most focus group members argued that the value of the video website was limited. However, the focus group participants suggested more concrete topics they felt would be more useful to launch via the website.

'I think they [videos] would be suitable for showing the products' usability areas ... we would not want to have the whole company entering the production, as this is a clean room environment.' (Quality engineer).

'It would be quite fun to see X talk about the business in Italy. I would watch that.' (Logistics engineer)

Table 5 about here.

4.3 Cognition

The senior management believed that the employees were not aware of and affected by the company's core values, which were underlying reasons for why they decided to produce a website with videos. However, as displayed in table 6, the results of the cognition measure from the first questionnaire indicate that the employees were of the opinion that they were quite aware of the core values ($M=5.2$). This was especially apparent when asked whether they felt they had good knowledge of the company's values ($M=5.8$). Notably, the mean was slightly lower for the second questionnaire

(M=5.1). There was quite a drop for the statements 'I have good knowledge on the company's values' (M before=5.8; M after=5.4) and 'I can describe the company's values for a friend' (M before=5.3; M after=5.0).

Table 6 about here.

The participants in the research and administrative focus groups agreed that watching the videos probably enhanced knowledge about the core values to some extent but that this was also supported by other projects. For example, there was a project initiated a few years ago with a similar aim. When specifically asked if they believed that the project contributed to enhanced awareness among the employees about the core values, the opinions varied.

'Yes, well, to some extent. ... Maybe there has to be something more but I don't know.'

(Logistics engineer)

'I am not sure that it is the movies ... but everything contributes something.' (Clinical operations manager)

'No, I cannot say that my knowledge about the core values has increased, unfortunately.'

(Process operator)

As seen below the middle management group struggled to recall the three core values. In the production line groups, the participants struggled even more. In one of the groups, the members managed to identify only one of the core values.

'Middle manager A: We said, right before I was coming here. "Oh, maybe we should repeat the core values". We came up with one each (laughter), that's how good we were (laughter), but we did recall them.

Middle manager B: So which are they?

Middle manager A: Well, there are ... (laughter)

Everyone: (laughter)

Middle manager B: Novelty, innovation and...

Middle manager A: *Professionalism.*

Middle manager C: *Simplicity.*

Middle manager A: *Simplicity.*

Middle manager C: *Yes.*

Middle manager B: *Four.*

Middle manager A: *No, there are three.*

Middle manager B: *Three ... (laughter)*

Middle manager C: *I think that novelty and innovation is the same thing...*

4.4 Behaviour

As shown in table 7, the total mean for the behaviour measure also decreased significantly (M before=5.0; M=4.7). We can see quite dramatic decreases of the means for the statements 'I think that the company's values can influence it's future positively' (M before=5.5; M after=4.9) and 'The company's values influence my daily work' (M before =5.2; M after=4.7).

[Table 7 about here.](#)

Discussions in the focus groups confirm the results from the questionnaires by revealing that few employees appear to have changed their behaviour. The extent to which employees have implemented the core values in their daily tasks also seem to vary depending on employees organisational positioning, as illustrated by the quotes below. Even though the discussion in the middle manager's focus group came to a similar conclusion, regarding lack of behavioural effects, the middle managers were of the opinion that at least the 'Simplicity' video did have an impact on the their behaviour and on the company as a whole.

'Well, that is very difficult since we have a very detailed workday in the production line. ... We are sort of timed on the minute.' (Process operator)

‘ ... you are not suppose to overdo things and so on and I believe that you are more... in general that you are more aware of that.’ (Middle manager E)

‘... ’simplicity’, is really something that the whole company has embraced.’ (Middle manager F)

4.5 Correlations

In Table 8, a correlation matrix is presented. It includes descriptive variables, the cognition and behaviour constructs, and the variables video experience and video preference. Video experience refers to whether employees felt they gained information concerning the company’s core values through web video. Video preference refers to the degree employees would like to receive information through web video. A number of strong correlations were identified. Participation and involvement seems to be a key construct as it correlated with video experience ($r=0.25$, $p<0.01$), video preference ($r=0.25$, $p<0.01$), employee satisfaction ($r=0.32$, $p<0.01$), cognition ($r=0.11$, $p<0.01$) and behaviour ($r=0.20$, $p<0.01$). Another success factor was a positive video experience, which correlated with video preference ($r=0.26$, $p<0.01$), employee satisfaction ($r=0.21$, $p<0.05$), participation and involvement ($r=0.24$, $p<0.01$) and cognition ($r=0.19$, $p<0.05$), although not with behaviour. Those who frequently used YouTube and Internet at home were more likely to prefer video ($r=0.18$; $p<0.05$; $r=0.25$; $p<0.01$). In line with the OL literature, there is a correlation between cognition and behaviour ($r=0.18$, $p<0.01$), i.e., shared understanding among members of an organisation is closely related with their behaviour and actions (Senge, 1990).

[Table 8 about here.](#)

5 DISCUSSION

The aim of this paper was to explore the impact of the use of an interactive video website on OL. We have studied how the use of the video website affected the awareness of a company’s core values and whether the behaviour of the employees was influenced. In general, most employees felt they had good knowledge on the company’s values and felt they worked on the basis of the company’s values

already before the video website was introduced. Notably, these findings differ from the perceptions of the senior management, who believed that the employees had limited understanding of the company's values. We did not identify any improvement concerning cognition and behaviour. The employees were aware of the values to a slightly lower extent after the video website initiative. There was also a significant decrease concerning whether the employees perceived that their behaviour had changed because of information and discussion about the values. The development and validation of measures of OL is an important research contribution in itself as the most critical area of importance has been argued to be the development of methods for measuring OL and the impact of learning on organisations and their performance (Lyles & Easterby-Smith, 2003).

The respondents seemed ambivalent regarding the benefits of the video website initiative. They preferred several other means of communication as compared with web video. Results from the discussions in the focus groups, with members from the production line, point to the fact that these employees were having difficulties in changing their behaviour since they need to follow a detailed work plan. This indicates that structural restrictions might have hindered employees both from accessing the video website and from changing their behaviour.

We found that especially participation and involvement, but also a positive video experience, were key success factors. Notably, the participation and involvement construct correlated with cognition and behaviour, but also with a positive video experience, video preference and employee satisfaction. Another success factor was a positive video experience, i.e. whether employees felt they gained information concerning the company's core values through web video. This construct correlated with video preference, employee satisfaction, participation and involvement, cognition, although not with behaviour. Thus, based on our study, organisations who want to improve the likelihood of successful use of an interactive video website should strive towards increasing participation and involvement by employees, and should also have a clear purpose with each video. When introducing a video website, there is a risk that organisations focus on producing high quality videos, rather than encouraging participation and involvement. Moreover, as is further discussed below, our study and previous research (Shifman, 2012) suggest that videos that are simple and focus on ordinary people are more

likely to generate participation and involvement. That being said, it is also important to keep in mind the web 2.0 rhetoric, i.e. the assumed re-positioning of people from consumers to producers, is often not met in online work-learning practices (Thompson, 2011). We also found that those who frequently used YouTube and Internet at home were more likely to prefer video. In order for employees to take full advantage of this type of initiative, it might need to be preceded by competence development on Internet use and use of video websites.

Drawing on our data on participation and involvement, we found that the use of the video website did not support heterogeneity, where employees contribute and share ideas, which has been argued to be one of the key dimensions of OL (Robey et al., 2000) and web 2.0 (Harrison & Barthel, 2009). In the questionnaire, the employees slightly disagreed regarding all items in the measure on participation and involvement. We also noted that there were few comments in regard to the videos. However, we learnt that those that felt like involved and active participants were more likely to prefer video, were more satisfied and perceived a greater effect on cognition and behaviour. As mentioned previously, research on organisational change communication in traditional settings has showed that creation of opportunity for the organisational members to be part of the communication and contribute to the organisational framework is key (Langer & Thorup, 2006; Weick, Sutcliffe & Obstfeld, 2005). Furthermore, Leung (2009) found that psychological empowerment could be enhanced by one's degree of content generation on the Internet. Our study shows that for new communication technology to positively affect OL, it is not only the creation of opportunity to engage in the communication that is important but also to make sure that employees are well aware of this opportunity. It is equally important that the organisational structure provides possibilities to make use of these opportunities. Those members who were familiar with the interactive video website and the opportunities for interaction that it provided, and were able to use it, were more positive toward the technology itself and also the change process to further implement the core values in the daily work. Those few that communicated about the core values, either on the website or outside, did also perceive themselves as more empowered to implement the core values the way that suited them best.

To summarize, a number of factors seem to explain why the website did not meet expectations. First of all, many of the employees were not aware of the website – many had not seen the videos and quite few were familiar with the website. One reason for this may have been the fact that the senior management did not consider the organisation's communication culture when informing about the interactive video website. A second reason seems to have been the turbulent period the company was experiencing. This meant other priorities than core values. It is likely that the downsizing of the company made the employees less interested in using the video website and to use the videos and online discussion as an inspiration for changing their work practices. Thirdly, organisational structures, such as being prescribed to follow a detailed work plan, seemed to have hindered employees in the production line from accessing the video website and changing their behaviour. A fourth reason appears to be the fact that the concept of the core values had been in focus a few years earlier in a core value project, which included workshops, meetings and posters around the company. This project never had a definite ending, which may have affected the employees in the sense that this renewed focus on the core values appeared to be a, very late continuation of the previous project. The employees slightly recalled this project but had left it behind them and did not regain interest in the core values. Finally, many employees were more interested to learn about concrete topics, such as getting an insight into clean room productions or being presented to colleagues in other countries. Shifman's (2012) study on YouTube videos that generated extensive user engagement supports our findings. She found that videos that were simple and focused on ordinary people were more likely to generate user engagement. Although the videos included 'ordinary people' from the company, this could be further developed as both the respondents and Shifman's study suggested it as a way of increasing user engagement.

In further research and practice it could be explored whether the use of a video website might have the potential to become more successful if such initiatives are guided by the core value 'simplicity', i.e. beginning with concrete and simple videos before moving on to complex and fuzzy topics. The presented results are based on self-reported data, which probably is the main limitation of this paper. The survey data give an indication of the impact of the use of an interactive video website on OL and

were complemented by focus groups. Future research is suggested to further examine the relationship between OL and the use of interactive video websites, by using complementary theoretical perspectives and methods in other real world contexts.

References

- Argenti, P. A. (2006). How technology has influenced the field of corporate communication. *Journal of Business and Technical Communication*, 20(3), 357-370.
- Argyris, C., & Schön, D. A. (1978). *Organisational learning*. Reading, MA: Addison-Wesley.
- Baggett, P. (1984). Role of temporal overlap of visual and auditory material in forming dual media associations. *Journal of Educational Psychology*, 76(3), 408-417.
- Baum, J. R., Locke, E. A., & Kirkpatrick, S. A. (1998). A longitudinal study of the relation of vision and vision communication to venture growth in entrepreneurial firms. *Journal of Applied Psychology*, 83(1), 43-54.
- Begley, T. M. & Boyd, D. P. (2000) Articulating corporate values through human resource policies. *Business Horizons* 43(4), 8-13.
- Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, 18(1), 32-42.
- Cennamo, K. S. (1993). Learning from video: Factors influencing learners' preconceptions and invested mental effort. *Educational Technology Research and Development*, 41(3), 33-45.
- Choi, H. J., & Johnson, S. D. (2007). The effect of problem-based video instruction on learner satisfaction, comprehension and retention in college courses. *British Journal of Educational Technology*, 38(5), 885-895.
- Collins, J. C., & Porras, J. I. (1996). Building your company's vision. *Harvard Business Review*, 74(5), 65-77.
- Daft, R. L., & Weick, K. E. (1984). Toward a model of organisations as interpretation systems. *Academy of Management Journal*, 9(2), 284-295.
- De Geus, A. (1997). *The living company*. Boston, Massachusetts: Harvard Business School Press.
- Eraut, M. (2004). Informal learning in the workplace. *Studies in continuing education*, 26(2), 247-273.
- Ferguson, J., & Milliman, J. (2008). Creating effective core organisational values: A spiritual leadership approach. *International Journal of Public Administration*, 31(4), 439 - 459.
- Fiol, C. M., & Lyles, M. A. (1985). Organisational learning. *Academy of Management Review*, 10(4), 803-813.
- Fulk, J. (1993). Social construction of communication technology. *Academy of Management Journal*, 36(5), 921-950.
- Fulk, J., Steinfield, C. W., Schmitz, J., & Power, J. G. (1987). A social information processing model of media use in organisations. *Communication Research*, 14(5), 529-552.
- Hakkarainen, P., Saarelainen, T., & Ruokamo, H. (2007). Towards meaningful learning through digital video supported, case based teaching. *Australasian Journal of Educational Technology*, 23(1), 87-109.
- Harrison, T. M., & Barthel, B. (2009). Wielding new media in Web 2.0: exploring the history of engagement with the collaborative construction of media products. *New Media & Society*, 11(1-2), 155.
- Hedberg, B. (1981). How organisations learn and unlearn. In P. C. Nystrom & W. H. Starbuck (Eds.), *Handbook of organisational design*. London: Oxford University Press.
- Hofstede G. (1980). *Culture's consequences: international differences in work-related values*, Beverly Hills: Sage.
- Janson, M., Cecez-Kecmanovic, D., & Zupančič, J. (2007). Prospering in a transition economy through information technology-supported organisational learning. *Information Systems Journal*, 17(1), 3-36.
- Kane, G. C., & Alavi, M. (2007). Information technology and organisational learning: An investigation of exploration and exploitation processes. *Organization Science*, 18(5), 796-812.

- Kanuka, H. (2008). Understanding e-learning technologies-in-practice through philosophies-in-practice. In T. Anderson (Ed.), *The Theory and Practice of Online Learning* (pp. 91-118). Edmonton: Athabasca University Press.
- Kiousis, S. (2002). Interactivity: a concept explication. *New Media & Society*, 4(3), 355-383.
- Kozma, R. B. (1991). Learning with media. *Review of Educational Research*, 61(2), 179-211.
- Lange, P. G. (2008). Publicly Private and Privately Public: Social Networking on YouTube. *Journal of Computer-Mediated Communication*, 13(1), 361-380.
- Langer, R., & Thorup, S. (2006). Building trust in times of crisis: Storytelling and change communication in an airline company. *Corporate Communications: An International Journal*, 11(4).
- Lencioni, P. M. (2002). Make your values mean something. *Harvard Business Review*, 80(7), 113-117.
- Leonardi, P. M. (2007). Activating the information capabilities of information technology for organisational change. *Organisation Science*, 18(5), 813-831.
- Leung, L. (2009). User-generated content on the internet: an examination of gratifications, civic engagement and psychological empowerment. *New Media & Society*, 11(8), 1327-1347.
- Lyles, M., & Easterby-Smith, M. (2003). Organisational learning and knowledge management: Agendas for future research. In M. Easterby-Smith & M. Lyles (Eds.), *Handbook of organisational learning and knowledge management* (pp. 639-652). Malden, MA: Blackwell.
- March, J. G. (1991). Exploration and exploitation in organisational learning. *Organization Science*, 2(1), 71-87.
- Morgan, D. L. (1997). *Focus groups as qualitative research*. Thousand Oaks: Sage Publications.
- Orlikowski, W. J. (1996). Improvising organisational transformation over time: A situated change perspective. *Information Systems Research*, 7(1), 63-92.
- Pattakos, A. N. (2004). The search for meaning in government service. *Public Administration Review*, 64(1), 106-112.
- Robey, D., Boudreau, M. C., & Rose, G. M. (2000). Information technology and organisational learning: A review and assessment of research. *Accounting, Management and Information Technologies*, 10, 125-155.
- Robson, C. (2002). *Real World Research: A Resource for Social Scientists and Practitioner-Researchers*. Malden, MA: Blackwell Publishing.
- Salancik, G. R., & Pfeffer, J. (1978). A social information processing approach to job attitudes and task design. *Administrative Science Quarterly*, 23(2), 224-253.
- Schein, E. H. (1993). On dialogue, culture, and organisational learning. *Organizational Dynamics*, 22(2), 40-51.
- Senge, P. (1990). *The fifth discipline: The art and practice of the learning organisation*. New York: Doubleday.
- Shifman, L. (2012). An anatomy of a YouTube meme. *New Media & Society*, 4(2), 187-203.
- Sjöberg, L. & Tollgerdt-Andersson, I. (1991). Företagsledares syn på 'den svenska modellen': produktivitet, arbetsmotivation och arbetstillfredsställelse. *Rhizikon: Rapport från Centrum för riskforskning*, Stockholm.
- South, J. B., Gabbitas, B., & Merrill, P. F. (2008). Designing video narratives to contextualize content for ESL learners: a design process case study. *Interactive Learning Environments*, 16(3), 231-243.
- Templeton, G. F., Lewis, B. R., & Snyder, C. A. (2002). Development of a measure for the organisational learning construct. *Journal of Management Information Systems*, 19(2), 175-218.
- Thompson, T. L. (2011). (Re/dis)assembling learning practices online with fluid objects and spaces. *Studies in Continuing Education*, 34(3), 251-266.
- Vielhaber, M. E., & Waltman J. L. (2008). Changing uses of technology: Crisis communication responses in a faculty strike. *Journal of Business Communication*, 45(3), 308-330.
- Webster, J., & Hackley, P. (1997). Teaching effectiveness in technology-mediated distance learning. *Academy of Management Journal*, 40(6), 1282-1309.
- Weick, K. E. (1979). *The social psychology of organising*. New York: Random House.
- Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (2005). Organising and the process of sensemaking. *Organization Science*, 16(4), 409-421.

- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge: Cambridge University Press.
- Westenholz A. (2003). Organizational citizens: Unionized wage earners, participative management, and beyond. In Czarniawska B. & Sevón G. (Eds.) *The Northern Lights: Organization theory in Scandinavia* (pp. 41-67). Malmö: Liber.
- Westenholz A. (2006). Employee participation in the management of working life: An historical analysis focusing on Danish and Scandinavian conditions. *International Review of Sociology*, 16, 79-99.

	Responses	Females	Age range (mean)	Years of employment range (mean)
First questionnaire	280 (62%)	170 (61%)	24-63 (40)	0-17 (5)
Second questionnaire	147 (41%)	87 (59%)	24-60 (41)	0-13 (6)

Table 1. Descriptive data for the respondents.

	Mean	Std. Deviation
I would recommend the video web site to a colleague.	4.3	1.5
I will not use the video web site in the future. (reverse-coded)	3.8	1.7
The video web site was suitable for learning about the company's values.	4.7	1.4
The video web site is a good channel for internal communication.	4.6	1.5
Total	4.5	1.5

Table 2. Descriptive data for the satisfaction measure.

	Before	After
Mass meeting	58%	74%
Intranet	53%	47%
Workshop	52%	54%
Web video	41%	67%
Personal with manager	31%	47%
Newsletter	28%	17%
E-mail	15%	12%
Other	11%	12%

Table 3. How employees felt they had gained information about the company's core values.

	Before		After	
	Mean	Std. Deviation	Mean	Std. Deviation
Personal with manager	2.4	1.6	2.5	1.7
Mass meeting	3.0	1.8	2.8	1.6
Intranet	3.1	1.6	2.9	1.4
Email	3.7	2.0	4.2	2.0
Web video	4.5	1.8	4.3	1.7
Newsletter	4.4	1.6	4.5	1.5
Workshop	5.7	1.9	5.3	2.2
Other	7.7	1.1	7.5	1.4

Table 4. Preferred means of communication (reverse coded).

	Mean	Std. Deviation
I felt engaged in the discussion of the company's values.	3.7	1.5
It was rewarding to write comments to the videos.	3.6	1.3
It felt awkward to write comments through the web site. (reverse coded)	4.2	1.6
The web videos felt more rewarding when you had the possibility to comment them.	3.7	1.2
I perceive that the web videos on the company's history and values led to increased discussion at work.	3.3	1.7
Total	3.6	1.4

Table 5. Descriptive data for the participation and involvement measure.

	Before		After	
	Mean	Std. Deviation	Mean	Std. Deviation
I have good knowledge of the company's values.	5.8	0.9	5.4	1.1
I can describe the company's values for a friend.	5.3	1.2	5.0	1.3
I can describe the company's value 'simplicity' for a friend.	5.1	1.4	5.1	1.3
I can describe the company's value 'professionalism' for a friend.	5.1	1.3	5.1	1.3
I can describe the company's value 'innovation' for a friend.	5.2	1.3	5.0	1.2
I think that most employees at the company are aware of the company's values.	5.1	1.3	4.9	1.2
Total	5.2	1.3	5.1	1.2

Table 6. Descriptive data for the cognition measure (Chi-square ($df = 7$) = 22.5, $p < .005$).

	Before		After	
	Mean	Std. Deviation	Mean	Std. Deviation
The company's values influence my daily work.	5.2	1.1	4.7	1.3
I work on the basis of the company's values.	5.4	1.1	5.1	1.2
I feel that it is difficult for us to work on the basis of the company's values. (reverse-coded)	4.1	1.5	3.7	1.6
I think that the company's values can influence it's future positively.	5.5	1.2	4.9	1.4
I think that most employees work on the basis of the company's values.	4.3	1.4	4.1	1.2
The company's value 'simplicity' affects my work.	5.2	1.3	5.0	1.3
The company's value 'professionalism' affects my work.	5.1	1.4	5.0	1.4
The company's value 'innovation' affects my work.	5.1	1.3	5.0	1.3
Total	5.0	1.4	4.7	1.4

Table 7. Descriptive data for the behaviour measure (Chi-square ($df = 7$) = 61.4, $p < .001$).

	Gender	Age	Education	Video exp.	Video pref.	YouTube exp.	Internet home	Internet work	Satisfaction	Part. and involvement	Cognition	Behaviour
Gender	1.00											
Age	.08	1.00										
Education	-.08	.11	1.00									
Video exp.	.03	.03	.01	1.00								
Video pref.	-.13	-.06	-.13	.26**	1.00							
YouTube exp.	-.21**	-.23**	-.13	.03	.18*	1.00						
Internet home	-.20*	-.04	-.02	.10	.25**	.40**	1.00					
Internet work	-.05	-.01	.14	.10	-.08	.22**	.24**	1.00				
Satisfaction	.13	.13	-.18*	.21*	.19*	.02	.02	-.07	1.00			
Part. and inv.	.16	.16	-.13	.24**	.24**	.04	.03	.03	.32**	1.00		
Cognition	.22**	.13	-.04	.19*	.04	.10	.16	.24**	.08	.11**	1.00	
Behaviour	.18*	.16	-.10	.08	.05	-.10	-.03	-.01	.08	.20**	.18**	1.00

Table 8. Correlation matrix.

* Correlation is significant at the 0.05 level ($p < 0.05$).

** Correlation is significant at the 0.01 level ($p < 0.01$).