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CONSEQUENCES OF USING PRE-RECORDED VIDEO INTERVIEWS AS A (PRE-) SELECTION TOOL Results of interviews and an experiment combined

Master Thesis

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Abstract

Organisations nowadays increasingly make use of internet technology to recruit employees. Part of such "e-recruitment" process is a relatively new but rapidly growing approach that allows communicating with applicants by using webcam technology, timeand place-independent. A recent development in this area is the use of pre-recorded, instead of live, interviews.

Applicants are asked to answer a set of questions that is designed for the specific vacancy they applied for. Answers are recorded using a webcam and sent to the recruiter, who receives a video of the applicant next to the applicants' résumé. This provides a recruiter with an additional source of information, which can be used when decisions are made on whom to invite for a face-to-face interview. The goal if this research was to identify all (unbiased) consequences of using video interviews in the pre-selection of applicants. Therefore, the following research question was answered:

What are the consequences of using pre-recorded video interviews in the recruitment and selection process of job candidates?

By means of mixed method research we explored the consequences of using web-based video interviews in pre-selection. After a structured literature analysis into these consequences, two empirical methods were used. First, interviews were conducted with respondents from different organizations who made use of video interviews for pre-selection. Second, an experiment was done to further explore whether video interviews indeed provide more information about applicants to recruiters.

The conducted research gives insight into the perceptions of our respondents, and is of exploratory nature. Therefore, no absolute conclusions can be drawn from its results.

Those results indicate that consequences of using video interviews are contingent on multiple factors such as for example job position, age of applicants, educational level and the labor market situation.

In most situations were video interviews are implemented, a reduction in the number, and an increase in the quality of applications is seen. Further, recruiters seem to be able to make better decisions on whom to invite for face-to-face interviews. As a result, fewer face-toface interviews have to be conducted to fill a vacancy because applicants perform better in these interviews. Therefore, the main consequences of using pre-recorded video interviews in the selection process of job candidates is that a similar amount of same quality hires can

be made in a more efficient way.

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Chapter 1 Introduction

Organisations nowadays increasingly make use of internet technology to recruit employees (Strohmeier, 2009, p.528). Part of such "e-recruitment" process is a relatively new but rapidly growing approach that allows communicating with applicants by using webcam technology, time- and place-independent. Using a camera and a microphone to broadcast video and audio over the internet, people involved can hear and see each other. A recent development in this area is the use of pre-recorded, instead of live, interviews. One of the first notions describing such a pre-selection record goes back to 2001 (Frost, 2001), when candidates were expected to travel to a nearby videoconference centre.

Forward to less than a decade, it is already possible for applicants to be interviewed from any location (office, private) using a webcam and their personal computer. Different organisations offer such services, for example Clooks (Clooks, 2010) who's serving customers directly, but nowadays also linked their system with that of multiple providers of applicant tracking systems. Other examples are Hirevue, who claims to have over a 100 customers (Hirevue, 2010), and Interviewstudio (Interviewstudio, 2010). Applicants are asked to answer a set of questions that is designed for the specific vacancy they applied for. Answers are recorded and sent to the recruiter, who can complete the selection procedure based on the recorded answers of all candidates.

This research focuses on the approach offered by Clooks, and the consequences of its implementation. Clooks is a Netherlands based provider of audiovisual e-recruitment solutions. It is founded in 2004, and mainly active in the labor market, but also in the sectors education and health. Most of their customers belong to the 500 largest companies in the Netherlands, but video interviews are also used in small and medium enterprises.

We define consequences as all results of the usage of the aforementioned technology, which are both advantages and disadvantages. Different advantages of the technology are claimed by technology providers, with cost and time savings as the most important (Clooks, 2010).

A structured literature search revealed no articles in which a similar system is described, let alone it's consequences. However, limitations are known of online screening procedures. Applicants are, for example, concerned about their privacy and question the fairness of the selection process (Bauer, Truxillo, Tucker, Weathers, Bertolino, Erdogan, et al., 2006). Further, the use of other selection technologies effects the attraction of applicants. In a meta-analysis of 71 studies on applicant attraction, Chapman, Uggerslev, Carroll, Piasentin & Jones (2005) found that, amongst others, applicant perceptions of the recruitment process affected the attraction of applicants towards organizations.

These are just examples, and don't give a full picture of all consequences. Therefore, the current research departed from the notion that the full range of consequences is broader than single outcomes. We concur with Strohmeier (2009), who stated that a given system has a spectrum of usage possibilities. Given this spectra, there obviously is a broad range of possible consequences.

1.1 Foci of study

Pre-recorded web-based video-interviews

This research is focused on the use of pre-recorded, web-based video interviews. From an interview with a representative of a provider of pre-recorded interviews, it became clear that those interviews are increasingly used in recruitment- and selection processes. Screening of previously mentioned technology resulted in an overview of how pre-recorded video interviews are being used in recruitment and selection.

The recruitment process starts as soon as a company needs to hire personnel. A vacancy is created and an interview is set up, which consists of selecting interview questions and uploading the vacancy. Whenever a candidate applies, he uploads his résumé. The next step is to record the interview. This can be done anytime, using a computer and a webcam. The interview questions are presented and the applicant replies to these after which the created interviews are uploaded to a web server. The recruiter(s) from the hiring company gets an impression of the applicant by viewing the recorded videos. Additionally, the résumé of the applicant is judged, after which a rejection or an invitation for a face-to-face interview is sent. A more detailed description of the technology is presented in the results section.

Implementation:

The research focuses on the consequences of using pre-recorded video interviews. Before one can speak of stable usage of the technology, it needs to be introduced to, and implemented within the organization.

We borrow the definition of Bondarouk (2011) who defined the implementation of e-HRM as

"the adoption of an application during the transition period between the technical installation of a new e-HRM system and its skilful and task-consistent use by employees, line managers, and HR professionals." (Bondarouk, 2011, p.18)

The consequences we map in the current research are thus consequences of the stable use of pre-recorded video interviews, after the implementation of the technology.

Position in the selection process:

In an article on electronic recruitment, Holm (2009) states:

"Traditionally, the recruitment process includes repetitive phases such as: (i) job analysis and identification of hiring needs, (ii) preparation of job description and specifications, (iii) attracting applicants, (iv) receiving and screening applications, (v) short-listing candidates, (vi) meeting, testing and interviewing candidates and finally selecting and hiring employees." (Holm, 2009, p.3)

It is thus possible to identify different stages in the recruitment process. Video interviews are used in the early stages of such processes. Although it affects the way in which applications are collected, its main use is in the stage of screening and short-listing candidates. The present study focuses is on the use of this technology for screening and short-listing, which is before organizations meet, test and interview job candidates. We define this part of the selection process as the pre-selection phase, which is illustrated in figure 1:

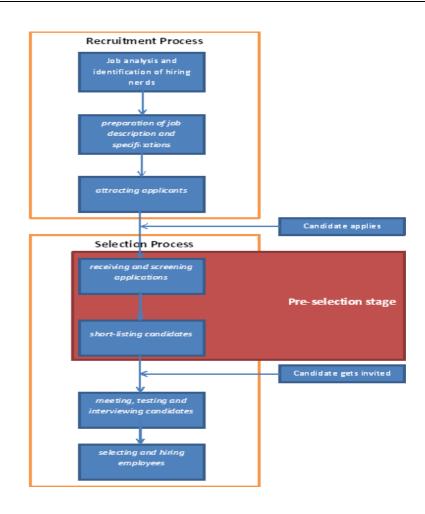


Figure 1 Illustration of the steps in the recruitment & selection process

The pre-selection phase used in this research is defined as "*The first phase in the selection process of job candidates in which pre-selection of applicants is done, which starts after an application comes in, and ends as soon as a decision is made whether to invite an applicant to successive stages of the selection process.*"

Pre-selection thus is an early step in the selection process, which takes place before an applicant gets a reaction on his application. Its result is an overview of unsuitable and potentially suitable applicants, of which the latter will normally be invited for an interview.

Used terminology

In order to distinguish between job applicants in the different stages of the selection process, we refer to them as:

• Candidates: Every person who could potentially apply for a given vacancy.

- Applicants: Everyone who has sent in an application
- Interviewee: All applicants who pass the pre-selection stage, and take part in the selection stage. Part of this stage is an interview in most situations.
- Hire: Everyone who passes the selection stage, and is found suitable to be hired.

Because interviews are conducted as part of the current research too, we refer to our interviewees as respondents. When reference is made to interviews done by candidates during the selection process, it will be indicated whether it is a video- or a face-to-face interview.

Web based selection:

In this research, the technology used to record video-interviews makes use of webcam technology. Videos are recorded using a personal computer and a webcam, and are than transmitted to recruiters via the internet. Therefore, our research focuses on web-based selection of candidates.

We thus focused on the consequences of implementing a web based solution, which are pre-recorded videos, in the pre-selection phase of the recruitment and selection process. We already were aware of some claims from professionals about the advantages of the usage of this technology. These are briefly described below.

1.2 Claims from practice

Professionals have claimed different consequences of the usage of this new technology. Their main claim is that the usage results in a reduction of the number of face-to-face interviews that have to be conducted to fill a vacancy. Fewer face-to-face interviews would result in different advantages such as cost- and time savings.

Cost savings

Technology providers claim an increased applicant scanning speed. Because video is provided in addition to a traditional CV, recruiters can see within a few minutes whether an applicant has the right charisma, approach and personality (Clooks (2010), Interviewstudio (2010)). Interviewers don't have to conduct an entire job interview to get an impression of a candidate. This doesn't only reduce interview time, but also saves time because interviewers can judge candidates whenever they want without making appointments. Because both consequences reduce the time recruiters spend on face-to-face interviewing, its costs are reduced.

Further, cost savings are claimed because fewer applicants have to travel for a job interview. Video interviews are used to filter out a number of candidates, reducing the number of applicants to be interviewed face to face. Because some of the necessary questions are already asked, less follow up interviews have to be conducted with selected applicants. This can yield great savings when they need to travel long distances.

Time savings

Recruiters need less time to make judgments about applicants. Which not only saves their time, as already mentioned, but also increases the speed of the entire recruitment process. Because the first selection round is done much quicker, and less applicants are invited to following rounds, less time is needed to fill a vacancy. Technology providers make claims of time-to-hire reductions by two weeks (Hirevue, 2010).

Applicant experience

It is claimed that applicants get a better experience from the recruitment process. That is because the video interview can be done whenever it suits them. They don't have to take days off from work, and don't have to spend time travelling in for a face-to-face interview. Technology providers also claim that his improved experience leads to a better perception of the employment brand.

Environmental initiatives

One provider of the technology not only claims a reduction in travel costs, but also claims to support "green" environmental initiatives. (Hirevue, 2010) Because applicants have to travel less, the amount of damage to the environment is lowered.

Applicant quality

Because additional information is provided in the first selection round, a better decision will be made on who is selected into following rounds. Because of better applicant perceptions and because there is no need to travel, it is likely that more candidates will apply. This will finally result in better interviewees in the final selection round, and better hires. Hirevue even claims a reduction of a company's new hire retention by 25% (Hirevue, 2010).

These claims are made by providers of video-interviewing technology, and could therefore be biased. Further, we were unaware of any other information regarding the consequences of using videos as a pre-selection tool. It was therefore unknown what all the advantages and disadvantages are, and the known advantages were possibly biased.

1.3 Research question

In order to identify all (unbiased) consequences of using video interviews in the preselection of applicants, the following research question is formulated:

What are the consequences of using pre-recorded video interviews in the recruitment and selection process of job candidates?

To answer the research question, empirical research was conducted to identify both positive and negative consequences. Based on Strohmeier (2009) we mapped the whole process of consequence occurrence that may consist, among others, of IT-potentials, the usage of the technology and ways the latter leads towards consequences.

IT-potentials are viewed as possibilities provided by the technology. The usage includes both the intended and unintended usage. Since there is no single way of using a technology, it is obvious that consequences are not fixed. They can even be clearly opposing. Further, consequences can be expected or unexpected, desirable or undesirable and can even change over time. Because of their importance, it was also investigated whether and how they can be managed.

1.4 Relevance

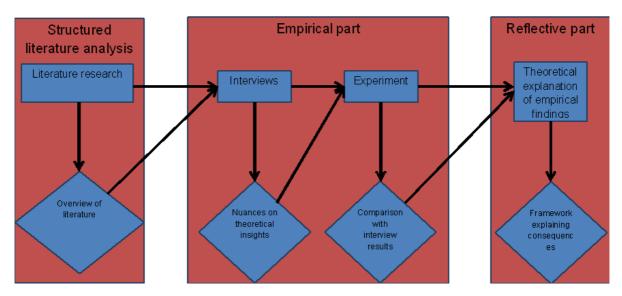
The conducted research has both scientific and practical relevance. For practice, it is necessary to know the consequences and contingencies of using pre-recorded video interviews. This will improve organizational decision making about the design of recruitment systems, and the usage of video interviews in selection processes. The usage of

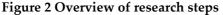
video interviews has several implications for personnel selection and the conducted research gives organizations the ability to foresee whether and how they can benefit from it. Also, understanding of the usage of video interviews helps when organizations try to remedy negative outcomes of its usage.

The usage of web-based selection tools, and especially the usage of webcams in selection processes, is relatively new for science as well. This research contributes to research because of the review of existing literature related to the usage of video interviews in pre-selection. By exploring and explaining the consequences of using video interviews, the conducted research helps to get understanding of the topic, and the motives of organizations to implement video interviews. It gives insight in the advantages and disadvantages, and how these consequences can be explained from existing theory. It provides the first exploratory step in order to gain understanding of the consequences of using video interviews, which could be helpful for further research into the topic.

1.5 Overview of the study

Our research consisted of a structured literature analysis, a sequential "interviewsexperiment" empirical part, and a reflective part.





As the first step, a structured literature review was conducted resulting in an overview of theoretical notions regarding consequences of changes in selection processes, and expectations of consequences of using video interviews.

This overview was used as input to design an interview protocol used in the empirical part. In the empirical part, interviews were conducted to observe consequences of using video interviews in pre-selection. The interview results gave nuances to our theoretical insights, and served as input for the design of an experiment executed as a second step in the empirical part of the research. The experimental results were compared with those from the interviews. Findings from the empirical part of the research were used as input for the final reflective part. In this stage of the research, an explanation for our empirical findings was given, reflecting back on theoretical notions stemming from the literature search conducted in the first stage of the research. The final result is a framework in which the consequences of implementing video interviews in the pre-selection process are mapped.

Chapter 2 Theory and conceptualization

2.1 Literature research

In order to gain a first insight into previous work about the consequences of e-recruitment, and especially the use of webcam technology in the selection process, a systematic literature search was conducted. The following algorithm was used to identify possible consequences of, and subjects to be studied about the use of the described technology. First, a keyword search was conducted using the frequently used databases Scopus, Web of Science and Picarta. The search terms used were "applicant selection internet", "applicant selection web", "e-recruitment", "video interview recruitment", "video recruitment", "video recruitment", "video selection", "videoconference selection", and the same terms with "video" replaced by "webcam".

Titles and abstracts of the identified papers were read to determine whether the literature was related to the use of webcam and / or video technology in the recruitment process. The resulting set of articles was double-checked with another researcher and some additional articles were added, resulting in a total of 51 papers. Next, the Web of Science database was used to determine how many times each article was cited. Titles and abstracts of those articles were read using the same criteria for elimination as used earlier in the process. For articles not found using this database, citations were checked using Google scholar. The process was repeated until no additional articles were found which provided us with a final set of 77 articles. An overview of these articles and the discussed consequences is given in Appendix A. An overview of empirical findings is presented in Appendix B. The consequences that were discussed most in the literature were the cost-effects on the selection process, effects on the quality of the selection process and the reactions of applicants to the selection procedure.

Consequence	Number of articles
Financial	34
Quality	33
Applicant reactions	29
Interview structure	22
Applicant attraction	17
Impression Management	16
Time	4
Recruiter perceptions	2

Table 1 Number of articles where consequence is mentioned*

* Some articles mention multiple consequences

2.2 Consequence categories

Three broad categories of consequences are identified. The first category regards financial consequences, and includes both financial consequences, and the time needed for the selection of candidates. The literature stresses that the shorter the time to hire, the smaller the costs associated with the hiring process. This category thus includes all consequences related to the cost associated with the hiring of candidates.

The second and third categories are respectively the quality and quantity of candidates throughout the entire selection process. Academics have previously recognized the importance of both groups of consequences. For example, Anderson (2003) who stated that the most central question when introducing new technology is whether it produces the same quantity and quality of applicants for an organization.

Related to the second category is quality, consequences of using impression management tactics by applicants, as well as the effect of interview structure on the quality of the selection process.

Related to the third category are the perceptions of applicants, including effects on the attraction of applicants and their reactions after being subject to the selection method.

Further, one extra issue is identified which can't be placed under one of the three categories. In two articles, the perceptions of recruiters about new technology are mentioned. Their perception could be important because it could whether a new system is actually used.

2.2.1 Category 1 Financial consequences

Financial consequences:

Academics have, as well as IT providers, claimed that internet-based selection could provide advantages for organizations. For example Anderson (2003) who claimed that it would lead to cost savings, and the advantage of remote administration, data collection and monitoring. In the selected set of articles, in 34 of those articles the costs of the selection process are mentioned, although in most of them cost wasn't subject of the research.

An example of a selection technology that leads to decreased costs is interactive voice response or IVR. (Bauer, Truxillo, Paronto, Weekley & Campion, 2004)

IVR is a technology which utilizes a telephone by which applicants self-administer a screening. It has similarities with the use of pre-recorded video interviews. Using IVR saves costs because applicants administer this step in the selection process themselves. Another way in which technology use in the selection process can result in cost savings is identified by Jones, Brasher & Huff (2002). They found that an applicant scoring system could be used to determine applicant potentials, and to filter out applicants that where likely to underperform. Jones e.a (2002) predicted that the use of an applicant scoring system could increase employee tenure which would consequentially reduce cost to hire new employees.

Chapman & Webster (2003) conducted interviews collecting the data from HR professionals representing 125 organizations. The goal of their study was to determine what technologies were used and the goals for using these, the extent to which these goals were met and what organizational factors lead to the adoption of these technologies. It was found that, amongst others, cost reduction was an important goal for 31% of the respondents. From the conducted interviews, it became clear that the cost of the implemented technologies were substantial. The authors however did not describe to what extent the goal of cost reductions was met.

In a study on the judgment of recruiters on the quality of e-recruiting services, Ettinger, Wilderom & Ruel (2009) explored staffing quality improvements and limitations as perceived by recruiters. Amongst other quality improvements, such as for example more incoming applications and wider reach of applicants, 26 out of 73 recruiters indicated that using e-recruiting services resulted in cost savings.

Consequences of using Pre-Recorded Video Interviews as a (pre-) Selection Tool

In a study on the use of e-recruitment implementation within U.S. state governments, it was however found that of the 15 governments who evaluated their e-recruitment system, only three evaluated the costs associated with it. (Kim & Connor, 2009) The authors however indicate the importance of such evaluations. Given the amount of literature in which the costs of the selection process are mentioned, these costs indeed seem to be an issue. Although no empirical evidence was presented, Bartram (2000) discussed the potential savings of using video-conferencing in selection processes. He indicated that applicants could be interviewed without having the cost of transporting applicants to an interview site. This could be a major cost saving, certainly for overseas applicants. Financial consequences thus seem to be an important issue when researching e-recruitment consequences.

Shorter time to hire

As indicated before, technology providers have claimed that the use of pre-recorded video interviews results in a shorter time to hire. (Hirevue, 2010)

Although no articles were found in which the effects of using video technology on the time used for selection processes was investigated, Becker, Connolly & Slaughter (2010) examined the effect of job offer timing on offer acceptance, performance and turnover.

The use of pre-recorded interviews could result in earlier job offers, since IT providers claim that the selection process can be done quicker. (Hirevue, 2010)

Becker e.a. (2010) investigated the effects of offer timing with field data of 3012 applicants. It was found that students, as well as experienced workers were more likely to accept earlier job offers. For 1445 of the hired employees, performance ratings from supervisors were obtained. Offer timings were not significantly related to performance ratings at the end of the first year of employment. For 1508 individuals, the current employment status could be determined. No significant relationship was found between job offer timings and employee turnover. The authors concluded that employees may benefit from accelerating their job offer processes, without lower employee performance or higher turnover. It should however be noted that job offer timing was measured as the delay between a final job interview and a job offer, were pre-recorded video interviews are used before job interviews are conducted.

2.2.2 Category 2 Quality of candidates

Quality of the selection process

In a review of research on the use of new technology in selection processes, Anderson (2003) stated "The most central question is whether use of new technology produces the same quantity and quality of applicants for an organization, of course." In a study on the quality criteria that are most important for recruiters, Ettinger e.a. (2009) investigated improvements and limitations of e-recruiting services. Information was collected using 73 interviews with recruiters, and by content analysis of e-mail communications between recruiters and service personnel of an e-recruiting portal.

It was found that recruiters judge the quality of e-recruiting services primarily by the quantity of applications, and not necessarily the quality of applications. Most recruiters indicated that e-recruiting resulted in a higher number of applications, which gave them more possibilities to select the best candidate. Having many applications is also indicated as an implication for practice by Thompson, Braddy & Wuensch (2008), who indicated that organizations could be highly selective when hiring in the case of a large applicant pool.

However, Ettinger e.a. (2009) found the quality of applications was lower when using digital instead of paper-based recruitment systems. Using e-recruitment didn't necessarily result in time savings because filtering of low quality applicants costs time. A similar finding was done by Chapman & Webster (2003), who surveyed HR professionals within 125 organizations. Respondents noted that the average quality of applicants did not change or was lowered. Also, the quantity of applicants increased, leaving the recruiters with many under-qualified or ineligible applicants.

Other limitations were also found in the same study conducted by Ettinger e.a (2009), of which the most important was that recruiters couldn't judge the actual behaviour and appearance of candidates (noted 54x). Also, recruiters couldn't judge communication skills such as observed in assessment centers (noted 32 times).

When the claim of IT providers (Clooks, Hirevue) that video-interviews are suitable for personality judgments is true, this could possibly reduce these limitations.

Therefore, the equivalence of face-to-face and pre-recorded video interviews should be known.

Different studies have investigated the equivalence of different selection methods. For example a study of Elgin & Clapham (2004) who compared the ratings given by 100 university students to résumés. The authors found that even the form of submitting a résumé, either electronically or on paper, resulted in different ratings, which indicates that a small change in the selection procedure can influence its results.

Also the accuracy of selection can change when another method is used. Blackman (2002) tested the accuracy of personality judgments in telephone and face to face interviews by comparing them with an applicant's self-assessment. For his study, 120 students were interviewed either face to face or via telephone. Before the interviews, participants completed a survey to report their personal characteristics. Blackman (2002) found that face to face interviews resulted in more accurate personality judgments in comparison to telephone interviews, likely because the latter does not provide nonverbal information to the raters. Blackman's finding indicates that the quality of the selection process can be influenced by the used technology.

Also, different studies were conducted to evaluate how well applicants were rated when face to face and telephone interviews were compared. Ratings for both methods were different, although studies on the mentioned topic resulted in mixed findings. An example is found in a study of Silvester e.a. (2000). They compared the ratings given in telephone and in face-to-face interviews to 70 job candidates for a position in a multinational oil corporation. It was found that ratings in face to face interviews where significantly higher than when telephone interviews were conducted. However, Straus, Miles & Levesque (2001) conducted a study which resulted in the opposite. The authors compared the outcomes of face-to-face interviews with the outcomes of telephone and videoconference interviews. For the study, 60 students were interviewed face-to-face. Of these students, 30 were also interviewed via telephone and the other 30 using videoconferencing. Straus e.a. (2001) found that applicants were rated higher in telephone interviews when compared to face-to-face interviews.

In the same article, Straus e.a. (2001) compared face to face with videoconference interviews. Applicants that were interviewed using video were not rated lower when compared to those interviewed face to face. However, Van Iddekinge, Raymark, Roth & Payne (2006) found strong support for their hypothesis that ratings of face to face interviews would be significantly higher than videotape ratings of the same interviews. A

sample of 113 students was interviewed by experienced interviewers. It was found that performance of interviewees was rated significantly lower for video as for face-to-face judgments.

Similar findings were also found by Fullwood (2007) who compared the judgments of 24 students who completed an assignment face-to-face, and 24 students who completed it using videoconferencing technology. Participants were paired and completed, either face-to-face or via video, an assignment together with their partner. After the assignment, participants filled out a questionnaire about their partner. No difference was found for how well partners could read each other's mind. However, participants in the face-to-face condition liked their partner more, and perceived their partner as more intelligent as in the video-mediated condition.

Using video instead of face to face interviews results in changed ratings. The effect on rating quality is however unknown, although there will be effects on quality since ratings change. From these findings, it can be concluded that the use of pre-recorded video interviews can result in changed applicant ratings and changes in selection quality.

Use of impression management

Another factor that could influence the judgments of interviewers is the use of impression management (IM) techniques. One notion is found in the professional literature stating that candidates who know how to play the camera would be favoured in the selection process. (Frost, 2001)

Some support for that notion is found in academic literature. The use of impression management is mentioned in 15 of the selected articles. Barrick, Schaffer & DeGrassi (2009) conducted a meta-analysis on the literature about impression management. It was found that the use of impression management by job candidates was moderately correlated with ratings given by interviewers.

Van Iddekinge e.a. (2006) compared ratings from videotaped interviews with ratings from face-to-face interviews. It was expected that ratings in face-to-face interviews would be higher when compared to videotaped interviews. One reason for higher ratings in face-to-face settings is because tactics used to influence the interviewer could only have indirect influence on the interviewer. Within a simulated selection setting with 113 students as interviewees, it was indeed found that ratings in face-to-face conditions were higher.

However, Lievens & Peeters (2008) found that impression management played only a minor role in the selection process. Two samples, one with 55 students and one with 18 professional interviewers, evaluated videotaped interviewees who were instructed to make the best impression on the interviewer. It was found that the importance of impression management tactics was of relatively low importance when compared to the importance of job-related competencies. In a literature review on the validity of employment interviews, Posthuma, Morgeson & Campion (2002) found that in general, the use of IM tactics has a positive influence on interviewer evaluations

Research on IM usage in employee selection was extended by Tsai, Chen & Chiu (2005) who examined the moderating roles of interview structure, customer contact requirements and interview length in real employment interviews. Results from 151 applicants at 25 different firms showed that applicant nonverbal tactics had less effect in structured interviews as compared to relatively unstructured interviews. Further, when relatively little customer contact was required for a job, the influence of self-focused IM tactics was found to be lower. Also, in longer interviews, self-focused IM tactics had no significant effect on interview outcomes.

The effects of highly structured interviews

In a review of the literature regarding job interviews, Macan (2009) indicates that no common definition about interview structure exists. Therefore, the results of previous studies on interview structure should be approached with caution.

From screening the technology of Clooks, it became clear that pre-recorded video interviews are highly structured. That is because all interview questions are determined in advance, and the entire interview is conducted in the same manner for every applicant.

In a review of new staffing challenges and opportunities, Ployhart (2006) indicates that structured interviews are more predictive than less- and unstructured interviews. Further, Chapman & Rowe (2002) found, in a study under 92 real job applicants, that applicants were more satisfied with structured videoconferencing interviews as with unstructured video interviews. Chapman & Zweig (2005) conducted a study under 812 interviewees and 592 interviewers from over 502 organizations. It was found that applicants perceived structured interviews as more difficult, but their perceptions of procedural justice and willingness to apply were not affected.

Different notions are found about the effects of interview structure on the use of impression management by candidates. Tsai e.a. (2005) explored the boundaries of the effects of IM by applicants in job interviews. Results from 151 applicants indicated that in more structured interviews, the relationship between applicant nonverbal tactics and their evaluation by interviewers was weaker. In a meta-analysis on the relationships between self-presentation tactics and ratings of interview and job performance, Barrick e.a. (2009) also found that the use of impression management had significantly less effect on interviewer ratings in structured interviews as compared to less structured interviews.

2.2.3 Category 3 Applicant perceptions

Applicant attraction

Chapman e.a. (2005) stated that applicant attraction is crucial in personnel selection, and for overall organizational success. Other notions are also found in which it is indicated that the design of an application and selection process can affect the attraction of applicants. In a study amongst 182 students who judged different versions of an organizational website, Thompson e.a. (2008) found that evaluations of organizational websites were positively related to the willingness of applicants to pursue employment within an organization. This relation was also mediated by the impression of applicants about the hiring organization. The importance of applicant attraction is described by Chapman e.a. (2005) who stated that attracting applicants is critical in personnel selection and for overall organizational success. In a meta-analysis, it was found that characteristics of the job and organization, how the recruiting is conducted and perceptions of fit influenced the attraction of applicants. Since the way recruiting is conducted influences the attraction of applicants, it can be expected that the attraction is also influenced by the use of pre-recorded video interviews.

Allen, Mahto & Otondo (2007) examined the factors that influenced the attraction of 814 students towards recruitment websites. Job information and organization information, as well as organizational image and attitudes about the website were found to be related to the attraction of applicants.

Pfieffelmann, Wagner & Libkuman (2010) also found that different variables affected attraction. In a study on preferences of 120 actual job seekers, some support was found for a positive relation between website usability and organizational attraction, and that aforementioned relation would be mediated by person-organization fit. However, support was only found for female applicants.

Williamson, Lepak & King (2003) also investigated the effect of the goal of websites on applicant attraction. Using a sample of 252 business students, it was found that websites designed to recruit were more attractive for applicants than website designed to select out applying candidates.

Reeve & Schultz (2004) examined whether information provided about selection methods was related to organizational attractiveness and intentions to apply. A sample of 207 students evaluated different job ads. It was found that information provided about selection methods was related to application intentions. When a selection method was perceived as more accurate, applicants were more willing to apply.

Applicant reactions

Different theoretical notions exist about the perceptions of applicants who have been subject to certain selection processes. In 39 of the selected articles, the perceptions of applicants are mentioned.

In a study on job choice processes of 588 applicants to 215 organizations, Chapman & Webster (2006) found that the selection process affects applicant reactions and their job choice decisions. For example perceptions of the friendliness of interviewers were found to be positively related to post interview organizational attractiveness, which influenced post-interview intentions of candidates.

However, the most important determinant of job choice was how candidates perceived the attractiveness of the organization before the selection process. Other studies were also found which indicated that the design of selection processes influences the perceptions of applicants.

For example Chapman, Uggerslev & Webster (2003) who investigated the reactions of applicants to face to face, telephone and videoconferencing interviews. In a field study with a sample of 802 applicants, it was found that face to face interviews were perceived as more fair and led to higher job acceptance than technology mediated interviews.

Research on the differences in applicant reactions towards video mediated and face to face interviews was conducted by Chapman & Rowe (2002). In a field study, 92 applicants rated organizational attractiveness after either a face to face or a videoconference interview. No support was found for the hypothesis that organizations conducting videoconference interviews were less attractive than those who conduct face-to-face interviews. However,

such an effect was found when videoconference interviews were conducted in an unstructured manner. In more structured interviews, applicants were more attracted to organizations using videoconference interviews.

In a study on the reactions of applicants to different selection technology, Bauer e.a. (2004) compared reactions to face-to-face, telephone and interactive voice response (IVR) interview screenings. A sample of 153 students experienced one of three methods. Bauer e.a. (2004) found that interactive voice response, which is non-interpersonal like pre-recorded video interviews, was only rated lower on three out of eleven procedural justice factors. The authors concluded that applicant perception isn't always the most important factor when choices are made between selection methods.

Another notion is about the privacy concerns of applicants. In both a study on the perceptions of students and a field study, Bauer e.a. (2006) found that privacy concerns were related to procedural justice and influenced the perceptions of applicants and their opinion about the organization. In the field sample, experience with computers was found to moderate the relation between procedural justice and both test-taking motivation and intentions toward the organization.

Notions are also found about anxious test takers. Wegge (2006) found that students who participated in an examination via videoconferencing reported stronger emotions when they could see their own picture. Job applicants also see their face when a video interview is recorded. (Clooks screening)

In a meta-analysis on applicant attraction and job choice, Chapman e.a. (2005) analyzed 71 studies in which relationships between various predictors and recruiting outcomes. It was found that applicant perceptions of the recruitment process were related to the attraction of applicants to jobs and organizations, and that perceptions of the process also affected the willingness of job seekers to accept a job offer.

Recruiter perceptions

Another notion found is about the reactions of interviewers towards highly structured interviews. Chen, Tsai & Hu (2008) found different reactions to highly structured interviews from interviewers in different companies. The authors indicate the importance of interviewer reactions because perceived usefulness is seen as a critical factor affecting whether or not highly structured interviews are used. Questionnaires from 292 applicants

from 33 companies were analyzed. It was found that analytic interviewers and interviewers working in firms with higher interview norms reacted more positively to the use of highly structured interviews, which indicates that the perceptions of recruiters change when different recruitment systems are used. The quality judgment of e-recruiting services can also be affected when organizations start using pre-recorded interviews. After conducting 73 interviews and analyzing e-mail communication between recruiters and service personnel, Ettinger e.a. (2009) found that recruiters' judgments about recruitment systems are mainly based on the number of job applicants instead of their quality.

Both notions indicate that recruiters have different perceptions of selection processes, and raise the question how the use of pre-recorded video interviews in the selection process is perceived.

2.3 Conceptual model of expected consequences

Throughout our structured literature research of 77 articles related to the usage of video interviews in the selection process, we did not come across a common theory explaining the outcomes of the usage of video interviews. Therefore, we made a first step in the conceptualization of the antecedents of using web-based video interviews in pre-selection. Three main consequences seem to be important when implementing video interviews. The costs of selecting applicants, quality of applicants and number of applicants are relevant for every stage of the selection process, which are the receiving and screening of applications, and short-listing candidates in pre-selection, as well as meeting, testing and interviewing in the selection stage. The result of both stages is that applicants are finally selected and hired. Important for this final result are the number of hires, the quality of hires, and the total costs involved to hire new personnel. We therefore discuss all three groups of consequences for pre-selection and selection, and its overall impact on the process of hiring candidates.

2.3.1 Consequences for the pre-selection stage

Number of applications

The pre-selection stage starts with the reception of applications. It is clear from the literature that the way in which selection is conducted influences the willingness of applicants to apply for a certain vacancy. Especially the fairness perceptions of candidates about the used technology seem to be related to their willingness to apply. When perceptions of candidates are more positive, the number of applications will increase. Therefore, a positive relation between candidate perceptions of video interviews and the number of applications exists. Because the perceptions of candidates about this technology are unknown, it is unclear how the implementation of video interviews will affect candidate perceptions of video interviews.



Figure 3 Unknown effect of video interview implementation on applicant perceptions, positive relationship between perceptions and applications.

Quality of applications

Different notions are found indicating that the usage of e-recruitment results in a large pool of underqualified candidates, which indicates that a relation exists between the recruiting system in use and the quality of applications. Video interviews are however different from the e-recruiting systems described in these notions. We therefore can not predict how the implementation of video interviews affects the quality of applications.

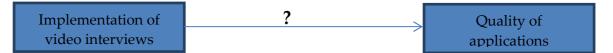


Figure 4 Unknown effect of video interview implementation on quality of applications

Quality of screening applications

Findings from research on the effects of usage of video's in selection processes on the accuracy of judgments are mixed, and we did not come across an underlying theory

explaining how the usage of video interviews in pre-selection would affect the quality of pre-selection decisions.

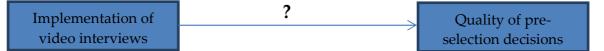


Figure 5 Unknown effect of video interview implementation on quality of pre-selection decisions

However, one notion was found explaining the difference in the quality of personality judgments for telephone- and face-to-face interviews. Blackman (2002) found that personality judgments were more accurate for face-to-face interviews as compared to telephone interviews. The explanation given for this result was that face-to-face interviews provided a larger quantity, and richer quality of candidate behaviours. We can draw a parallel between the comparison of Blackman (2002), and the comparison of judging résumés on the one hand, and judging video interviews on the other. Recruiters can't see any nonverbal information provided by an applicant when judging a résumé. However, when a video interview is judged, nonverbal behaviour of an applicant can be seen. Blackman (2002) argued that the additional information provided would result in more accurate judgments. This argument is in line with a more general theory of media richness, proposed by Daft & Lengel (1984). We used this theory to conceptualize how the implementation of video interviews could affect the quality of pre-selection decisions.

Daft & Lengel (1986) proposed that media richness is an important factor in organizational decision making. As defined by Daft & Lengel (1986), media richness is the ability of information to change understanding within a time interval, and is dependent on the source, the channel, language and possibilities for feedback. Face to face communication is the richest form of communication because it provides immediate feedback, message content is expressed in natural language and different cues like body language and tone of voice are provided. Earlier, in 1984, Daft & Hengel argued that telephone as an information medium has high information richness, but is lower in richness than face-to-face information sharing. This is in line with the findings from Blackman (2002). It therefore seems that media richness theory has a strong explanatory power in the selection process of job candidates. In table 2, an overview of richness determining characteristics of face-to-face, telephone, pre-recorded video interviews and résumés is given. This figure is adapted from Daft & Lengel (1984).

Medium	Feedback	Channel	Source	Language
Face-to-Face	Immediate	Visual, Audio	Personal	Body, Natural
Telephone	Fast	Audio	Personal	Natural
Video interview	Slow	Visual, Audio	Personal	Body, Natural
Written,	Slow	Limited Visual	Personal	Natural
Personal				
(Résumé)				

Table 2 media richness determining characteristics (adapted from Daft & Lengel, 1984)

It is clear that face-to-face communication is the richest form of information, because it enables immediate feedback, provides information in a visual way, as well as via sound, and allows for the observation of body language. A résumé is the least rich, because feedback is slow, communication is limited and only natural language is provided.

Pre-recorded video interviews and telephone interviews are placed between face-to-face and written communication. Feedback in video interviews is slow when compared to telephone interviews. However, it provides information via a visual channel which also allow for the observation of body language. Therefore, it remains unclear which of the two media is richer. However, it can be concluded that theoretically, pre-recorded video interviews have greater media richness than résumés.

According to Daft & Lengel (1986), using richer media can reduce equivocality, which is the existence of multiple and conflicting interpretations about an organizational situation.

When this theory is applied to the selection process of job candidates, it would imply that using richer media in selection processes would reduce the number of conflicting interpretations about job candidates. This would increase the agreement between recruiters about whom to hire, and improve the quality of selection decisions.

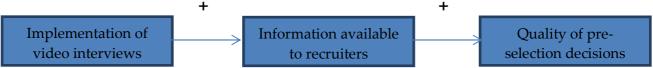


Figure 6 Implementation of video interviews results in a higher amount of information available to recruiters, which results in higher quality pre-selection decisions.

Pre-selection costs

A logical consequence of implementing an additional selection tool in the pre-selection process is that the costs of pre-selection increase. First because of the cost of the system itself, second because of the additional time needed by recruiters to set-up interviews and review the videos. The costs are also affected by the number of applications. The more applications, the more time is needed to review them.

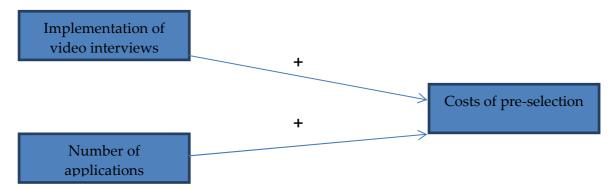


Figure 7 The implementation of video interviews and the number of applications are both positively related to the costs of pre-selection.

2.3.2 Consequences for the selection stage

Because video interviews are used for the pre-selection and not for the selection stage, no direct effects from the implementation are expected on the selection phase. It's usage in pre-selection can however affect the number and quality of applicants entering the selection stage.

Number of applicants in the selection stage

When the number of applicants in the pre-selection stage is lower, a smaller amount of applicants in the selection stage is expected. According to Thompson, Braddy & Wuensch (2008), a higher number of applications doesn't necessarily result in a higher number of candidates in the selection process because it allows organizations to be highly selective. A higher number of applications would therefore result in a trade-off between the number of, and the quality of candidates in the selection process.

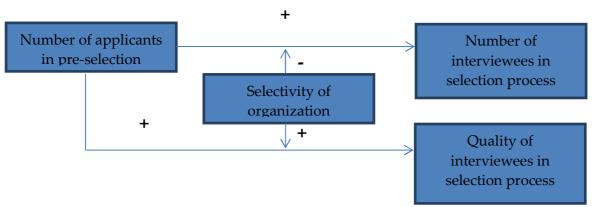


Figure 8 The relationships between the number of applications and both the number and the quality of interviewees are moderated by the selectivity of the organization

Quality of applicants in the selection stage

The quality of applicants who are invited for the selection stage is dependent on three factors. First, the already discussed trade-off between quality and number of applicants who are invited for this stage. Second on the quality of the candidates in the pre-selection process. When the average applicant quality in this stage is higher, this will generally result in a higher quality of applicants in the selection stage.



Figure 9 The quality of applicants is positively related to the quality of interviewees

Further, the quality of the pre-selection decisions will affect the quality of applicants entering the selection stage. When better decisions are made, the quality of applicants in the selection stage will be higher.



Figure 10 The quality of pre-selection decisions is positively related to the quality of interviewees

Costs of the selection stage

The costs of the selection stage depend on the number of applicants who go through the selection process. A linear, positive relation exists between the number of applicants in the selection stage, and the costs of this stage.



Figure 11 The number of interviewees is positively related to the costs of the selection stage

2.3.3 Overall consequences for the entire selection process

Number of hires

The number of hires can be affected by both the quality and quantity of applicants in the selection stage. A larger number of applicants in the selection stage will enable organizations to hire more candidates. It is also possible to make the same trade-off as in the pre-selection stage between number of hires and quality. A larger number of applicants in the selection stage could therefore increase the quality of hires as well.

The quality of applicants in the selection stage too can result in a different amount of hires. When the average quality is higher, more candidates are successful in the selection process which will result in a higher number of hires per candidate who is invited to the selection process.

Quality of hires

The trade-off between the number and the quality of hires is discussed. A higher number of applicants in the selection process can be used to increase the number, or the quality of hires. The same holds for the effect of the quality of hires in the selection process, which can result in a higher average quality of hires, but also in a higher number of hires.

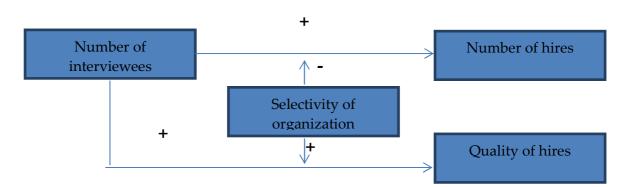


Figure 12 The relationships between the number of interviewees and both the number and the quality of hires are moderated by the selectivity of the organization

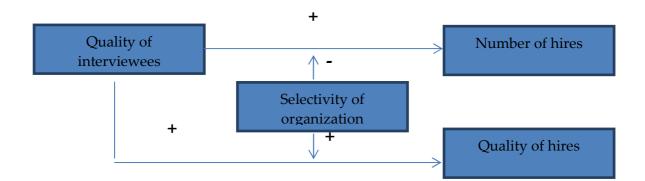


Figure 13 The relationships between the number of interviewees and both the number and the quality of hires are moderated by the selectivity of the organization

Costs of the selection process

The costs of the selection process depend on the costs of both the pre-selection and the selection stage. In order to take the effects on the number on hires into account, costs should be calculated per hire. Our expectation is that the cost will increase, because pre-selection becomes more expensive, except when the claim of technology providers is true that fewer face-to-face interviews have to be conducted.

Our conceptual model indicates that effects could be present on both the quality and quantity of applications. Further, the findings on using videos in the selection process are mixed. It is therefore uncertain whether the quality of pre-selection decisions will increase. Therefore, empirical evidence was gathered to gain additional insight in the consequences of using pre-recorded video interviews in selection processes.

Chapter 3 Methodology

To explore further the consequences of using pre-recorded video interviews in the recruitment and selection process of job candidates, a sequential research design was chosen.

The empirical research consisted of two separate steps. First interviews were done to identify how organizations make use of pre-recorded video interviews, reasons for implementation, and the consequences of using these interviews in the selection process. The observation of consequences was used to refine the expectations derived from the theoretical notions in chapter two.

In the second part of the research, an experiment was used to be able to explain the interview results through observation of the pre-selection process.

Several reasons determined the choice for a mixed method design to understand the consequences of the observed technology. Interviews allowed first hand observations from multiple organizations. This enabled the observation of consequences of using video interviews in different situations, were the usage of the system differed from each other, resulting in the description of a full range of consequences.

The experiment clarified the most important differences between both pre-selection methods which were observed in the interviews.

The perceptions of respondents were that the usage of video interviews in pre-selection resulted in a higher success rate for applicants during face to face interviews. Two reasons were given for the increased success rates. First, it was indicated that the overall quality of applicants was higher because the video interviews worked as a selection tool itself which filtered out unsuitable candidates. Second, the videos provided recruiters with more information which enabled them to make better decisions on whom to invite for face to face interviews.

The first goal of the experiment was to explore whether video interviews lead to more agreement between recruiters when decisions to invite candidates for face-to-face interviews are made, which is an indication of better quality of selection decisions. By exploring the quality of selection decisions using a second method, the interview results were triangulated which strengthened the reliability of our findings on this issue, which seemed to be a highly important consequence.

The second objective was to further explore what applicant characteristics were revealed by video interviews and which characteristics by an analysis of résumés.

The third objective was to get more insight in the effects of using video interviews on the decisions made by recruiters on whom to invite for face-to-face interviews. These objectives not only served as triangulation for the interview findings on these two topics. The sequential design, in which the experimental design was constructed based on interview results, allowed to gain a fuller understanding of how and why a change in pre-selection method resulted in the consequences observed in the interviews. Respondents were asked which employee characteristics they determined using résumés, and which were revealed by videos. This was used as input for the experimental design in which the agreement between recruiters on aforementioned characteristics were examined. A consequence of using video interviews is that decisions to invite applicants for face-to-face interviews are changed. The experiment was also used to examine this consequence in more detail. Before conducting interviews, possible consequences described in literature were operationalized.

Consequence	Definition	Indicators	
Financial	All cost changes within the	- Costs of pre-selection	
	entire recruitment and	stage	
	selection process	- Cost of selection stage	
Quality of the selection	The extent to which	Quality of judgments	
process	organizations are able to make	made in (pre-)selection	
	correct selection decisions		
Applicant experience	Applicant perceptions of the	Reactions given by	
	selection process after being	applicants to recruiters	
	subject of video selection		
Applicant attraction	Number and quality of	Effect on applications	
	applicants applying for a		
	particular job, due to the use of		
	video interviews.		
Time to hire	Time between job posting and	Speed of the selection	
	hiring decisions.	process	
Recruiter perceptions about	Willingness of recruiters to	Perception of recruiters	
video pre-selection	work with video pre-selection.	on how they like to	
		work with the system	

Table 3 Operationalization of investigated consequences

3.1 Step 1 Interviews

Semi-structured interviews aimed to gain insight in the reasons for using pre-recorded interviews, how they were used and consequences of this usage. The first research step resulted in an overview of consequences, and whether they are dependent on the specific contingency in which pre-recorded video interviews are used.

Interviews were conducted because of three reasons:

- a diverse sample of organizations/respondents was be reached
- recruiters elaborated on perceived consequences and indicated unknown consequences
- using semi-structured interviews gave the opportunity of follow up questioning to further clarification and explanation on consequences.

An overview of the interview protocol is given in Appendix C.

Selection of respondents

In order to gain insight in the use of pre-recorded video interviews in different situations, a heterogenity sample of organizations was used to conduct interviews with. This was done to observe the usage of video interviews in different selection process situations, which increased chances of observing unknown consequences.

Since video interviews aren't widely used, and organizations don't advertise using it, the help of the contact person within Clooks was very helpful. This is an organization who delivers a system that allows organizations to set-up video interviews that can be recorded by their applicants. Clooks contacted their customers with the request to participate in the research, which resulted in a sample of respondents who have experience with the usage of pre-recorded video interviews. These respondents are working within a broad variety of organizations and industries. An overview of the sample is given in table 4.

Table 4 overview	of interview same	mple
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Nr.	Function of interviewee	Industry	Interview
			duration in
			min.
1	HR expert	Health insurances	36
2	Director	consultancy	34
3	Recruiter	Service provider in public	25
		transportation	
4	Manager trainee programme	Government	46
5	Manager trainee programme	Financial services	36
6	HR representative	Financial services	15
7	Owner / Director	Research and consultancy	39
		in communication for the	
		labour market and in	
		recruitment	
8	Recruiter	High-tech	34
9	HR representative	Construction company	17
10	HR consultant	Consultancy in selection	45
		and assessment	
11	HR representative and office	Software provider for	19
	manager	document and process	
		management	
12	Director	Service provider in	44
		staffing and recruitment	
total		interview time:	330 minutes

Within one large organization in the banking sector, two interviews were conducted with recruiters responsible for 1) recruitment of higher educated talent, and 2) recruitment within a local division of the organization.

Interview analysis

The interviews were analysed in three steps:

- First, the audio recordings of the interviews were transcribed. This wasn't done literally. However, notes were made of the time in the recording at which observations were made. This enabled us to play back observations at a later moment.
- Second, notes made during the interviews and interview transcriptions were analyzed. Consequences mentioned during the interviews were grouped into categories. The majority of these categories were earlier derived from the literature

review. When a consequence didn't fit in an existing category, a new one was added.

An interviewee states: "12:07, pre-selection, getting used to another place, otherwise probably 500 applications" This shows that after 12 minutes, a statement is made that video interviews work as a selection tool. Further, the interviewee is looking for a certain applicant characteristic: "candidates should be able to quickly adapt to changing situations. Finally, a statement is made about a reduction in candidates. The subjects discussed here are selection tool, applicant characteristics, and number of applications. Every subject was noted on a different sheet of paper, together with the consequence on that subject. For example on the subject applicant attraction: "Applicant attraction: Organization x: 12:07 reduction in applicants 500 ->300"

Figure 14 Example of interview transcription analysis

After that, the other interview results were analyzed in a similar way. When a subject wasn't covered yet, it was added as a new one. In other cases, the consequence was added to the already mentioned subject. These combinations of consequences as mentioned by interviewees were presented in the results section.

 Third, the interviews were interpreted by the interviewer. By comparing the different experiences of interviewees in different situations, it was possible to determine consequence contingencies of using video interviews in pre-selection.

3.2 Step 2 Experiment

3.2.1 Comparing résumés and videos in the selection process of candidates

From the interviews conducted in the first stage of this research project, it became clear that the usage of video interviews in pre-selection resulted in a higher success rate for applicants during face to face interviews. In different cases, a comparison could be made between a situation with paper based applications, and a similar situation were video interviews were added. It was seen that applicants who were selected based on both their résumé and video had more success during face-to-face interviews. Two reasons were given for the increased success rates. First, it was indicated that the overall quality of applicants was higher because the video interviews worked as a selection tool itself which filtered out unsuitable candidates. Second, the videos provided recruiters with more information about applicants which enabled them to make better decisions on whom to invite for face to face interviews.

These consequences are perceptions of recruiters. In those cases where efficiency gains were actually observed, it was unclear to what extent each of the perceived consequences accounted for improved efficiency.

To further explore whether video interviews indeed provide more information about applicants to recruiters, an experiment was done.

The first goal of the experiment was to explore whether video interviews lead to more agreement between recruiters when decisions to invite applicants for face-to-face interviews are made. In cases with higher levels of agreement, equivocality is lower and the quality of selection decisions is higher.

The second objective was to further explore what applicant characteristics were revealed by video interviews as different to an analysis of a résumé. Respondents revealed that the videos were used to get a first impression about applicants. Recruiters indicated to look for certain personal skills such as communication skills, fluency, extraversion, firmness, entrepreneurship, service orientation, motivation and appearance in general. Although the perceptions of recruiters were that these characteristics played a role in their judgments, it was unclear how this exactly influenced their opinions. The main idea is that all these characteristics shape the "first impression" recruiters get from the videos.

The third objective was to get more insight in the effects of using video interviews on the decisions made by recruiters on whom to invite for face-to-face interviews. Respondents have indicated that video interviews enabled them to make better decisions on whom to invite for job interviews, which resulted in a more efficient selection process. It is however unclear how large these effects are.

3.2.2 Research design

Six recruiters from the same company participated in the experiment. Their task was to review applications of job seekers who had recorded a video interview and submitted a résumé as an open application during a career fair. Recruiters 1 and 2 independently evaluated the resumes of five applicants, recruiters 3 and 4 evaluated the video interviews recorded by the same applicants. The other two recruiters evaluated the combination of video and résumé.

Participants reviewed different forms of applicant characteristics. These attributes are intelligence, motivation, leadership skills, interpersonal skills and qualifications.

Respondents have indicated that some attributes, such as motivation, interpersonal-, and leadership skills, can be revealed by videos but are difficult to judge when using résumés. Other attributes, such as intelligence and overall qualifications are related to "hard criteria" that is indicated on résumés.

Candidate evaluation questionnaire

The candidate evaluation questionnaire was developed by examining previous research on résumé evaluations. The questionnaire is provided in Appendix D . An adapted version of the candidate attributes from a study by Elgin & Clapham (2004) was used for candidate evaluation. Elgin & Clapham (2004) investigated whether applicant judgments were different when résumés were submitted in electronic form instead of on paper. One hundred participants reviewed a résumé, either in paper or electronic form, of one applicant on seven different attributes. The Cronbach alphas for each attribute ranged from 0.76 to 0.96 which indicates that reliable measures for all attributes were used.

These attributes were very similar to the candidate characteristics mentioned by our respondents. Because the attributes technology and resourcefulness weren't mentioned during the interviews, those items were deleted from the questionnaire. The attributes analytical skills, extraversion, firmness, communication skills and fluency in language were added to the evaluation questionnaire because these were specifically mentioned by recruiters as important employee characteristics. The evaluation sheet is thus a result from a combination of earlier research by Elgin & Clapham (2004), and insights gained from the interviews done in the earlier stage of this research.

Characteristics mentioned by respondents that weren't used by Elgin & Clapham (2004) were added to the questionnaire, those that seemed to be irrelevant for this evaluation were removed. This resulted in a list of 30 items divided over 5 attributes. For all items, statements about the applicant were made like "the applicant is intelligent" on which the reviewer could respond using a 7-point Likert scale. This enabled the judger to indicate to what extent he agreed with the statement, using the following scale: (disagree strongly,

disagree moderately, disagree mildly, not sure mixed, agree mildly, agree moderately, agree strongly). The order in which items were asked was randomized to spread bias over all attributes.

Analysis of the agreements

To get insight in the quality of the judgments made by recruiters, it was evaluated how the agreement of recruiters within each condition (resume or video) was. This was done by calculating the correlation coefficient between recruiters responses on each attribute, per condition (résumé, video or combination). The higher the correlation between responses, the higher the agreement between recruiters would be. Before analyzing the agreement, a check was made to see whether the respondents had indeed an idea about the characteristic they judged. When the majority of responses indicated that recruiters were not sure about how to judge a characteristic, this was seen as an indication that it was not possible to make a judgment.

Effect of medium on decisions to invite for a job interview

Further, decisions to invite applicants for an interview in both conditions were asked. Different items were used to get an indication of how the used medium effected hiring decisions. To get a deeper understanding of the reason behind selection decisions, recruiters were asked whether they would invite an applicant for successive stages of the selection process, and to make a short statement of why they made this decision. Also, recruiters were asked to name the job titles they thought to be relevant for the applicant. The decisions to invite for a job interview were evaluated using an existing scale used by Cole e.a. (2004). In this study, it was investigated how recruiters' inferences of the personality of applicants effected their hiring recommendations. It was found that the personality derived from résumé data influenced recruiters' perceptions of candidate employability. Recruiters were asked whether they would be interested to interview the applicant, and whether they would recommend the applicant to be hired. Further, it was asked how likely they found it that the applicant would succeed at their organization and what their overall perception about the applicant was. In the study by Cole e.a. (2004), exploratory factor analysis indicated that the four items loaded on a single factor explained 86% of the variance, with α =.94. Therefore, it was assumed that these items gave a good indication of recruiters perceptions of applicant employability.

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Next to these five point scale items, a yes/no decision was asked to know whether the applicant was invited for successive stages of the selection process, and some open ended questions were used to get an impression of the reasoning behind recruiters decisions. This enabled further exploration of the effects of using different media in pre-selection on recruiters decisions to invite applicants for a job interview.

Chapter 4 Interview results

The results from the interviews are presented in three different sections. First, the observed technology is described and the ways in which it is used are discussed. Second, various reasons for why organizations chose to use video interviews in their pre-selection process are given. Third, we discuss both the positive and negative consequences of using pre-recorded video interviews. It should be noted that these results are just the perceptions of respondents, and no absolute conclusions can be drawn from them.

4.1 Description of the technology and its functionalities

A web based video interview is an interview conducted via the internet, based on preselected questions. These questions are presented to an applicant on his computer screen and via his speakers. The answers of the applicant are recorded using his webcam. This results in a pre-recorded interview, which can be assessed at a later moment by the organization who requested to record an interview.

Usage in pre-selection

Most organizations that use pre-recorded video interviews make use of it in their preselection process. This process normally consisted of the judgment of an applicants' resume, sometimes in combination with a motivational letter on criteria such as work experience and education. Thereafter, a decision is made whether an applicant is invited to participate in the subsequent stages of the selection process or not.

When video interviews are used, the pre-selection process is slightly changed. At the moment that an employee is needed, a vacancy text is created. Next to that, a video interview is composed.

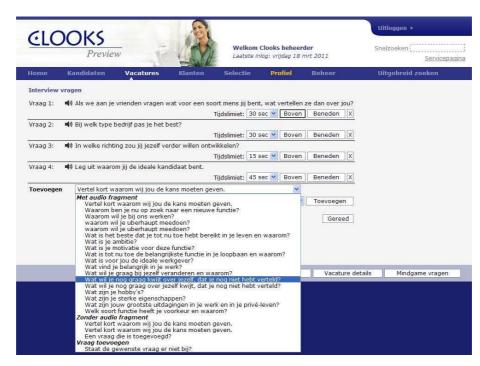


Figure 15 Selecting questions for an interview

As a first step, (video) interview questions are selected for a specific vacancy. These questions can be selected out of an existing database, or a request can be made to add specific interview questions to the database. To ad questions to the database, either the technology provider has to create an audio file for the specific question, or the recruiter to upload an audio file.

Further, the time an applicant gets to answer a specific question should be set, which varies generally between fifteen and sixty seconds.

After setting up the video interview, a hyperlink is created that can be published together with a job ad, on the website of the company or distributed via e-mail to specific persons.

After clicking the hyperlink, applicants get the possibility to record their interview. Before recording the actual interview, applicants have the ability to watch an instruction video, and get the possibility to record some test questions. These questions can be used by the applicant to test whether everything works fine, and to experience the system.

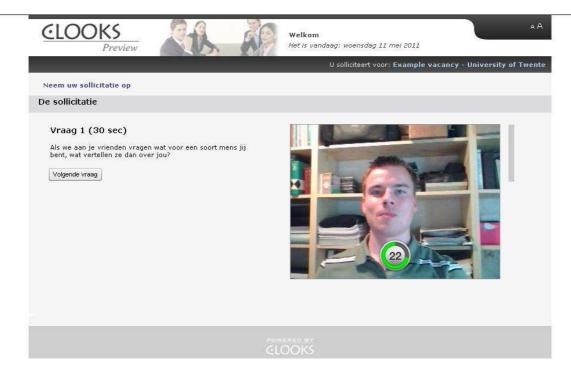


Figure 16 Recording a video interview

In the next step of the application process, the applicant answers the questions selected by the organization who published the vacancy. Although most organizations give applicants one change to record an interview, it is possible to allow applicants to redo an interview in case they aren't satisfied with the result.

If an applicant doesn't get satisfying results, he has the opportunity to abort the process. The interview is deleted, and the organization doesn't get the possibility to view the recorded video.

Otherwise, the applicant gets the possibility to upload documents such as a résumé. When the application process is finished, the organization receives an e-mail as notification. From that moment on, the organization can start the pre-selection phase, in which recruiters are able to view a video interview of the applicants in addition to a résumé. Some organizations start reviewing résumés to filter out applicants who don't meet certain hard criteria such as educational level or work experience. Most respondents indicate that they review both résumés and interviews at the same time. Applicants are short-listed and a decision is made about who is invited to take part in the next phase of the selection process. The video interview is thus used to provide additional information about an applicant, next to information from résumés and motivational letters.

Usage to set up a talent-pool

One organization is planning to use video interviews to set up a so called talent-pool, which is a database with job candidates for "the future". Our respondent indicated that almost everyone who applies for a job is potentially interesting. At certain times, the organization receives many applications. In other periods however, the number of applications is much lower. At moments at which many talented people apply, not everyone can be offered a job. The respondent indicates that you'll never hear again from these applicants when you tell that you've no positions available. Asking those applicants to be in a talent pool provides an organization with a database with interesting candidates. When these applicants are also asked to record a video interview, more information is available about the candidates in the pool. The usage of video interviews for a talent pool is however not yet implemented, and the consequences of it are therefore unknown.

Usage in reintegration processes

Video interviews are also used in reintegration of different target groups with people who need some support to get employed. Starting with an intake, the organization looks what motivates someone, what he wants to learn, and what his goal is. The goal of the organization is that people can leave their organization, either employed or starting education, within six months. People are trained on how to apply for a job, which consists amongst others of training in the writing of résumés and motivational letters, instruction about how to find an interesting organization and how to contact them.

Video interviews are used in different stages of the training process. As a first step, an introduction clip is recorded. As soon as a person gets in touch with the organization, he is asked to record a video in which five questions are asked about him as a person. Recording a video is confronting for the candidate, but provides the reintegration organization with a lot of information. It also gives them the possibility to build up a file of the candidate which enables them to track their progress. During the process, a coaching clip is used to improve someone's body positioning, behaviour and presentation. Candidates are for example coached when someone doesn't talk clearly or shows signs of disinterest. The database with different questions is used so the training can be done with different questions each time. Because the answers of a candidate are recorded, both their verbal and

nonverbal reactions can be analysed afterwards. Training can be repeated until the candidate is satisfied with his own presentation.

At the end of the reintegration trajectory, the candidate gets the possibility to use a clip when applying for a job. The organization has the experience that candidates are rejected based on their résumé because they are unemployed for a long time, because of their age, because they are immigrant or because they left school without a diploma.

The idea is that applying with both a résumé and a video helps to highlight positive aspects of the candidate. For example that someone is motivated, speaks the language or has the right personality for a job. Although the organization has multiple experiences with people who got a job offer, it has not been tested whether applying with a video increases an applicant's chance to get a job offer.

4.2 Reasons for implementation of video interviews in preselection

Innovativeness

Organizations using video interviews as a pre-selection tool have different reasons for implementation. A reason given multiple times is that organizations like that the technology is new and innovative. One HR-representative in the banking industry said:

"It was new, it is fun, and we are known to be an innovative organization." Respondent 5

Other respondents in different industries are interested in innovations too. Being innovative also has to do with the image organizations want to build. They want to show that they're an innovative company. For example in a governmental organization, at which their corporate image as an innovative organization is important:

"It is a new way of recruiting, especially for the target group, which are trainees. I find it a part of our image. We, as an organization, want to be and stay innovative, and communicate this to the outside. It is really nice to involve this in our recruitment process as well." Respondent 4

Being innovative and showing that to your environment is seen as an advantage of the technology. Image building is however not the main reason for most organizations. One HR-professional in the insurances industry indicated: The fact that video interviews are innovative thus result in two reasons for implementation. The first is that people like to work with new solutions, the second is the effect on the corporate image.

Efficiency

Multiple organizations started using the technology because they expected time savings. Video interviews would give more information about applicants, and enable better decision making on whom to invite for a job interview. Logically enough, when recruiters make better decisions in the pre-selection process, it would have a positive effect on applicants' performance in job interviews, as better applicants are invited. Therefore, fewer face-to-face interviews are needed to fill a vacancy. Multiple cases in which time saving is an issue were observed. One illustration is given at a local bank, which frequently has vacancies for juniors to provide customers with advice on their products:

We get many applications for this vacancy. Experienced and inexperienced candidates, and candidates with different education. It takes a lot of time to invite them; you have to free time for them. Very often, you see within the first five minutes whether a candidate is suitable or not. It saves time when you let candidates record a video, so you can see this before making an appointment. Respondent 5

It not only saves time because fewer appointments have to be made, conducting less faceto-face interviews also results in a more efficient selection process because organizing these meetings takes less time.

Self-selection tool

Some organizations use video interviews as a self-selection tool in the application process. Whenever a candidate wants to apply, he is obliged to record a video. If the candidate doesn't want to record a video, it is not possible to apply. One organization uses the tool for self-selection because their trainees frequently switch positions within the organization. According to the respondent, candidates who aren't willing to record a video interview are probably not suitable for such a traineeship.

A respondent at another organization was looking for trainees who have a certain form of courage:

"The remaining people are those who just record a video, who dare to do this. That fits in our profile of candidates. If it is about competences with courage, people have to jump into the deep end and manage themselves. That is a nice complex situation. If you do not dare to record a video of your own, it tells something about yourself." Respondent 2

Filtering out candidates who don't possess certain forms of extraversion is one of the reasons given to implement video interviews in such a way that candidates can only apply when they record one.

Advantages for applicants

Some organizations indicate that advantages for applicants played a role too in the decision to implement video interviews. One advantage is that saves time because applicants can record a video whenever they want.

"It also saves time for the candidate. It is difficult to plan an interview on short term because of full agenda's. It is now possible for the candidate to record a clip whenever he wants, even at night." Respondent 6

Another advantage for applicants which is indicated is that applicants who are not able to write a good cover letter get a chance to present themselves anyway.

Organizations thus have different reasons for the usage of video interviews. On overview of those is given in table 5.

New technology	- Newness		
	- Image building		
	- Attracting applicants		
Better pre-selection	- Obligatory pre-selection		
	- Better picture of candidates / second		
	dimension next to résumé		
Efficiency	- time savings during interviews		
	- less interviews to conduct:		
	 time saving 		
	 saving in travel costs 		
Advantages for candidates	- time saving:		
	 no need to travel 		
	 record a video at anytime 		
	- opportunity for presentation		

Table 5 Reasons for implementation of video interviews

4.3 Consequences of using pre-recorded video interviews

Respondents have indicated different consequences of using video interviews in preselection. These consequences are described in process order, starting with the consequences on the attraction of applicants, and continuing with consequences for the process itself and afterward reactions from applicants and recruiters.

4.3.1 Consequences for pre-selection

Number of applications

Innovativeness in order to attract

Different respondents have indicated that they make use of video interviews to show that their organization is innovative. Their idea is that an image as an innovative organization results in the attraction of more applicants. Respondents are however not able to indicate whether they indeed attract more applicants, and how large this effect is. One respondent states:

"We think that the content of our trainee program is the main criterion for job seekers. Next to that, we are known to be a good employer. This (using video interviews) works when people are appointed. They talk to people in their network and indicate that the selection process is very professional etcetera. In this way, it helps to attract certain candidates. However, we don't promote that we're using video interviews, it is on our site but that's all." Respondent 5

It is thus not seen that the use of video interviews is a reason for candidates to apply. Respondents expect that it helps in maintaining and building an innovative image for their organization, but don't see direct effects.

Reduction in the number of applicants

However, different respondents have seen a reduction in the number of applicants. One HR professional used video interviews for an administrative function. The video was not deliberately used for this position. It was the first vacancy available after the organization decided to try the usage of video interviews.

Only two candidates recorded a video. We experienced that people see this as a big obstacle. We had quite a number of reactions, but many people circumvented the webcam interview. It was indicated that they had to

record a video, but people looked up our e-mail address and sent only their résumé to us. We don't know whether this has to do with the function we used it for. Respondent 9

In the described situation, the reduction in applications was problematic. Our respondent revealed not to use video interviews anymore for administrative positions. Another respondent used it for a function as sales & service advisor. This is a function for which the communication skills of an applicant are important. Here it was also seen that not all applicants were willing to record a video:

We make use of an applicant tracking system which always gives the possibility to upload your motivation and résumé. Instead of clicking the hyperlink to record a video, applicants make use of this possibility to bypass the clip. We tell these applicants that it is required to record a clip. Their response is usually that they don't have a webcam. We can imagine this, and invited them to record a video in our office but they didn't want to do so. Respondent 6

The respondent stated that for this function, 49 people applied and 19 of them recorded a video. The other 30 applicants didn't want to record a video. It was indicated that this could be a disadvantage, because it's also possible that good candidates don't want to record a video. The reduction in applicants is however not seen as a big issue, since the clip mainly filters out candidates who aren't suitable for the job. Another respondent also experienced candidates didn't want to record a video or indicated that they were not in the possession of a webcam. The attitude of candidates who didn't record a video was questioned by the interviewee, and the fact that those candidates refused to record a video was seen as an advantage:

Conducting this video interview is a kind of selection. Some people don't put effort in being able to record a video. If you don't have a webcam, you can make the decision not to record a video. You can also buy a webcam, or borrow it from someone else. We are a software company with people with a no-nonsense mentality. If you complain about not having a webcam, instead of arranging something, we already filter out people who aren't suitable for the job. Respondent 6

Some recruiters have deliberately chosen to use the recording of a video as a selection tool. At these organizations, it is indeed seen that the number of applicants reduces. One illustration comes from an organization that is hiring approximately 40 trainees per year. In the situation were video interviews were used, 300 applications came in. The respondent indicated that the number of applications would be around 500 when only a résumé was

asked from applicants. Another organization is hiring junior advisors twice per year. The number of applications was stable over multiple years, with an average of 100 applicants per round. For the second round of one year, video interviews were implemented and the number of applications dropped with about 50%.

The expectation of the respondent at that particular organization was that using video interviews would filter out unsuitable candidates. It was thus expected that the quality of those applicants who apply would be better on average. The respondent however indicated that it was possibly that they would miss suitable candidates.

"It is a disadvantage that you possibly miss candidates with potential. But that doesn't weigh up against the advantages. When I look at the results, I'm fine with that." Respondent 2

Applicant reactions

We already discussed that the usage of video interviews results in a lower amount of applications. Another important aspect of the perceptions of applicants is their reaction after they've experienced the recording of an application clip. The respondents who make use of video interviews indicate that most applicants who have recorded a video give a positive reaction when being asked about their perceptions. One recruiter revealed that candidates like to record a video, although they sometimes have some difficulties with it:

"We evaluated the perceptions of applicants for our traineeship. Generally, this is positive. However, there are enough people who, for example, do not have a webcam or who are disturbed during the video interview. But in general, the reactions are positive, also from people who are rejected." Respondent 3

Another recruiter experienced that candidates react in a positive way, but don't find it easy to record a video:

"We asked candidates how they liked the video. Actually, they all say that they really liked it. Some say they were very nervous, and indicate that it wasn't easy to do. But we haven't had anybody who said that he would never do this again. In general, the reactions are positive and nice." Respondent 5

It thus seems that those candidates who've made the decision to record a video give a positive reaction. They also indicate that it's not always easy to record a video interview, which could be an explanation for the reduction in the number of applications discussed earlier.

Using video interviews can significantly reduce the number of applications.



Figure 17 Implementation of video interviews results in a lower number of applications

Most respondents have indicated that the reduction isn't problematic because they expect to filter out unsuitable candidates. Different respondents however acknowledge that they likely discourage suitable candidates to apply. For some HR-professionals, the amount of applications is still large enough to fill all their vacancies. However, one case was identified in which the threshold of recording a video was too high, and resulted in an insufficient amount of applications.

Quality of applications

Quality of reactions

A change in the willingness of applicants who apply can affect the quality of applications. When unsuitable candidates don't apply anymore, this would consequentially increase the average quality of applications. An effect that is observed by some interviewees. One respondent indicates that it is an advantage that not everyone wants to record a video:

I find it also an advantage that those people who remain, are people who do this, who dare to record a video. That fits into our profile. I also think that people who apply do this deliberately; you filter out a lot of applications before the selection process starts. You sometimes see "copy-paste letters" from candidates who send them to multiple organizations. There is nothing personal in it. When you use video interviews, those people who apply are people who've deliberately chosen to apply at our organization. Respondent 2

Another recruiter had to deal with applicants who were unmotivated to work for the particular company at which they applied. These applicants didn't match certain criteria such as the required educational level. Although there were still a number of such applicants, the interviewee indicates that the video is already a good obstacle, and that most people who respond seriously have a good chance in the selection process. For this traineeship, the number of unsuitable applicants indeed decreased. However, one recruiter who also used video interviews for a traineeship didn't observe a change in applicant

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quality. More than enough suitable candidates applied, it was however not the case that the quality of applicants was higher. According to the respondent, this organization was stricter in the selection process because they were recruiting only for people who would be in the top of the organization in 10 years, instead of just recruiting talented people.

The quality of appointed people was higher, but that is because we had a stricter selection process. We only wanted the best of the best candidates who will be in the top 30 of our organization in 10 years. This difference is due to stricter criteria, instead of the usage of video interviews. Respondent 3

In some situations the quality of reactions increased due to the use of video interviews. In other cases, no effect on the suitability of applicants was seen.

Figure 18 Implementation of video interviews results in an equal or higher quality of applications

An increase in applicant quality is therefore not always a consequence of using prerecorded video interviews, and depends on the circumstances in which the system is implemented.

Quality of pre-selection decisions

It has been argued that a better selection process is a result of video interviews. The reason for the improved selection is that recruiters get more information in the pre-selection phase because they can view videos, which enables better decision making.

Respondents admit that the quality of the pre-selection process is better. Multiple respondents say that they get a better picture of the candidate in this phase, like in the following example:

[&]quot;You get quite a good impression of someone with in a few minutes. Sometimes you have a job interview in which you see in a few minutes that a candidate won't get the job. That it's not the one you're looking for. You have filtered this out with the use of video interviews." Respondent 2

Another respondent ads as another advantage that the video of a candidate isn't influenced by the aid of others:

"You have a picture of a candidate already. A letter isn't necessarily written by a candidate himself, and a candidate can think of every aspect of the letter. A webcam interview gives a more pure picture of someone because they have to answer the question immediately." Respondent 11

The perception of people involved in the selection of job candidates is that video's provide them with a better picture of applicants. Their idea is supported by the experience of one recruiter invited some applicants who had a good résumé but who didn't record a good video. Everyone whit a good résumé but a bad video who was invited, failed during the interviews.

In the described cases, the decision judgments based on the video seemed to be valid, which supports the perception of recruiters that a better decision in pre-selection is possible. Using video interviews in pre-selection does off course not guarantee that selected applicants are always successful in job interviews. As one respondent indicates:

"On certain points you can say that a person doesn't have certain capabilities, but you can't see whether someone possesses certain capabilities. We invited others for an interview who in the end weren't appointed either." Respondent 2

It thus seems that it is possible to filter out some unsuitable applicants in the pre-selection process based on what respondents call a first impression.

On the other hand, a video could give a more positive picture of an applicant who would have been rejected based on his résumé. In such cases, the video doesn't leads to an invitation instead of a rejection for the candidate. One HR-professional illustrates this with an example:

"We have multiple cases, but for example someone who studied history. This person would definitely not be invited based on a résumé. There is an insufficient fit with what we are looking for. The video was just so good, so enthusiastic and passionate. We invited this candidate; she got appointed and is doing a very good job as a trainee nowadays." Respondent 4

Video interviews are not only a tool to reject unsuitable applicants. They can also be used to become aware of good applicants with a résumé that doesn't fit well for a particular job.

Being able to view a video next to a résumé also helps recruiters in deciding whom to invite for an interview when résumés of applicants are very similar. A video provides them with additional information that is supporting their decision:

"When you have only a résumé, you look at hard facts. The big advantage of video interviews is that you don't solely look to education and work experience. Trainees are young people with little work experience. A résumé doesn't provide you with much information. The advantage of video interviews is that you have a second dimension. It gives a first impression of someone's skills and abilities. Were you earlier invited applicants based on a résumé, you now also look at a candidates' personal skills." Respondent 4

Video interviews enable recruiters to filter out unsuitable applicants, find suitable applicants who would have been rejected based on their résumé only, and to make better decisions when résumés are very similar.

On the other hand, recruiters acknowledge that it is possible that they mistakenly reject applicants based on their performance in the video interview.

"A first impression is made only one time, and is often who you are. However, you can be very mistaken in this. You take that risk, although you also have this when you select candidates based on letters, that you let go good candidates. When your first impression isn't good, you don't put effort in an interview in which this can eventually be adjusted." Respondent 1

Interview structure and usage of impression management tactics

Although the theoretical review showed that interview structure and impression management tactics play a role in job interviews, respondents didn't indicate that these were issues when using video interviews. In general, their perception is that a video interview gives a good picture of an applicant. It however plays a role how many times an applicant is allowed to record a video. Recruiters at some organizations give the opportunity to record a clip once; others give the opportunity to do another interview when an applicants isn't satisfied with his performance.

One organization gives applicants the opportunity to record a video once. The reason is that the resulting clip gives a more realistic picture of the applicant:

"A candidate is put into a real situation. In a job interview, you also don't know what to expect, you also have to respond immediately. I think this is very good because you see the primary reaction of a candidate on unexpected questions. The picture you get is very real. When you are for example are allowed to practice ten

A respondent at another organization revealed that applicants get the opportunity to practice the interview. They can imagine that applicants are sometimes willing to redo an interview, although they see that providing such an opportunity sometimes is a disadvantage:

"Some people react less spontaneous, they practice a few times. You could ask how real, how spontaneous the reactions are. You see in some videos that candidates have put notes on their monitor; you see that they're reading text which makes me laugh. You have people who have obviously prepared the interview... On the other hand, the system provides this opportunity and I'm fine with it. You can make a mistake, and there always is a certain tension." Respondent 2

That it is possible to train for an interview is seen at one organization that uses video interviews in reintegration processes. Although this is a different situation, it indicates that it is possible for a person to improve his performance by practicing.

"We use a 'coachingsclip' to improve someone's attitude, behavior and presentation. We coach for example when someone talks unclearly or shows disinterest. We use a database with questions to train people with different questions. Because the answers are recorded, we can evaluate how the reactions are, verbal and nonverbal. Respondent 12

It is thus possible to train people on the recording of a video interview. This is however within a longer trajectory and in a different situation. It is therefore question to what extent the use of impression management techniques can be beneficial in video interviews for job applications. Training for video interviews takes a long period, and recruiters are able to see that applicants have practiced for an interview. A consequence of providing applicants with the opportunity to record a video more than once is that the impression recruiters get from the video clip is of lower quality. The usage of impression management techniques therefore does not seem to be beneficial for those applicants using it, but reduces the quality of pre-selection. In general, the perception of respondents is that video interviews improve the pre-selection process, although it is obvious that wrong decisions based on a video are inevitable.



Figure 19 Implementation of video interviews results in better pre-selection decisions

4.3.2 Consequences for the selection process

Number of applicants throughout the selection process

It was seen that the implementation of video interviews resulted in fewer applications, with the same or a better quality. Also, the pre-selection decisions were better according to interviewees. The main reason for implementation of video interviews is that better pre-selection decisions would lead to a higher quality of applicants in the selection process, resulting in fewer face-to-face interviews to conduct. Interviewees indeed indicated that they had to conduct to conduct fewer face to face interviews, but couldn't give an exact indication how large this reduction was within their organization. At two organizations however, a good comparison could be made between the situation were pre-selection was done based on résumés, and the situation were pre-selection was done based on a combination of résumés and videos. Because of the importance of the reduction in face-to-face interviews due to the usage of webcam interviews, a more detailed comparison between the situations with and without video is given.

In tables 6 and 7, the differences between the old "paper-based" situations only, where preselection was done using a résumé, and the new situation, where a video was included, are illustrated for two organizations, as examples. These examples show that a reduction in the number of applicants is compensated by a more efficient selection process.

In the first table, an example is given of an organization that is hiring 40 new trainees every year. In the old situation, about 4 interviews had to be conducted to fill one position. Therefore, they had to interview approximately 160 candidates in total. These candidates were selected from about 500 applicants.

The next year, the organization started to use video interviews, in combination with an eassessment. The number of applications was reduced from about 500 to 300. The résumés, videos and results of the assessments were compared, and 100 candidates were invited for an interview. Although there were only 40 job positions, 60 applicants seemed to be suitable for these positions. It was thus seen that those candidates who were selected based on a combination of résumé, video and assessment had more success during face-to-face interviews. The perception of this organization is that this is a result of a better preselection, and also because the use of video interviews is a selection tool in itself.

Organization 1	Number of	Number of	Suitable	Success rate in
Pre-selection	applications	interviews	candidates	interviews
method				
Résumé	500*	160*	40	25%
Résumé + Video	300	100	60**	60%
	* Estimated		** 40 of these	
			where hired	
			because only this	
			amount of	
			vacancies existed	

Table 6 differences between pre-selection methods for organization 1

In the second table, a similar overview is given for an organization that was also looking for trainees. During the first half of a calendar year, 106 applications came in. Of those candidates, 55 were invited to fill out a paper based questionnaire. After this, 32 were invited for an interview of which 8 people were invited to do an assessment. Finally, two candidates were hired.

During the second half of the same calendar year, the organization started to use video interviews and 52 applications came in. The organization invited 29 candidates for an interview, of which 17 people were invited for an assessment. In the end of the selection process, 8 candidates were hired.

Organization 2	Number of	Number of paper	Number of	Suitable	Percentage of
Pre-selection	applications	based	interviews	candidates	interviewees
method		questionnaires			who got hired
Résumé	106	55	32	2	6,3%
Résumé +	52	-	29	8	28%
Video					

Table 7 differences between pre-selection methods for organization 2

This example shows that those candidates who were selected for an interview based on both a video and a résumé not only did better in the interviews, but also had more success during the assessments.

Both examples show that those candidates who are invited for an interview based on a prerecorded video combined with a résumé do better in the successive stages of the selection process. From a company's point of view, this would result in a more efficient selection process, since a smaller amount of candidates has to be invited.

Quality of the selection process

Using a video in pre-selection also helps recruiters in the further steps of the selection process. They already have additional information at the beginning of a job interview, which helps during the meeting with a candidate.

"I experience that you already have a very good picture of a candidate. From there, you can continue on a selection day. We have a good percentage of people who succeed in a selection day. I think that our preselection is pretty good, and a part if that is that you look at a video interview and benefit from that on a selection day." Respondent 5

The quality of the selection process therefore not only improves in the pre-selection phase, but also effects the consecutive stages of the process. It is however unknown whether the quality of decisions made during the selection stage is indeed better, or that watching a video in pre-selection only helps recruiters in the first moments of an interview.

Costs of the selection process

A better pre-selection process would consequentially have a positive impact on the successive stages of the selection process. When candidates' performance in job interviews is better, fewer interviews are needed per vacancy to fill that job position. This would

logically result in a more efficient selection process, which is also indicated by different interviewees:

"It saves time, and money. You do the first selection based on a video. You save time because you have to plan fewer interviews." Respondent 6

At one organization, not only a video interview, but also an e-assessment was added to the pre-selection process. The video clips therefore didn't solely account for the observed efficiency gains. One of their HR-professionals tells:

"We invite fewer people for an interview. For our trainee program, we earlier had to do 160 interviews for 40 positions. It is also very difficult to arrange this. Because we now have this pre-selection, we could reduce the number of initial interviews to 100. ... I think that from those 100 people, about 60 would fit in our organization. Respondent 4

An interviewee described how their pre-selection process was changed. First, they used a paper-based questionnaire, which was later replaced by video interviews. Their director revealed:

"Before we used video interviews, we had 106 applicants. Of those, 55 were invited to fill out the questionnaire. This resulted in 32 interviews, 8 of them did an assessment and 2 candidates were finally hired. Then we started using video interviews. In a similar period, we had 54 videos and 29 interviews. Of those candidates, 17 were invited for an assessment, which is almost twice as much. Eight of those candidates were hired by us. This means that we have more effect with video interviews as compared to letters." Respondent 2

At the same organization, it was also seen that their decision to replace questionnaires by video interviews saved time in their pre-selection phase:

"We now spend about half an hour per candidate in the pre-selection process. That was much more. Multiple people were looking at application letters and questionnaires. I think that took an hour per candidate." Respondent 2

The illustrations show that fewer face-to-face interviews had to be conducted since videointerviews were implemented. At one organization, a video and an assessment was added to the pre-selection process. In another situation, a paper based questionnaire was replaced by videos which saved time in the entire selection process, including the pre-selection phase. The usage of video interviews therefore seems to result in time savings. However, it takes time to watch and judge a video. Although most interviewees indicate that it doesn't take much additional time when a video has to be judged in addition to a résumé, one corporate recruiter doesn't agree on this. This interviewee first makes a selection based on résumés, and judges all videos of candidates with a suitable résumé afterwards.

"It takes a lot of time. We have to do the entire selection process within 3 weeks for about 400 candidates. We had to look at about 220 videos in which four questions were asked. That just takes a lot of time." Respondent 3

The advantage of time savings is therefore reduced because of the additional time needed to review applications. However, the perception of all interviewees is that time savings weigh out against the time it takes to review videos.

Having fewer interviews to conduct can, in some situations, have other benefits apart from time savings. One interviewee works at an organization that is recruiting candidates from all over the world who can't be found in the organizations country of origin. This interviewee indicated that his organization has only little experience with the use of video interviews. They however hope that they can increase the efficiency of the selection process:

When we invite a candidate for a live interview, they fly to the Netherlands, have different interviews the next day, and fly back to their home country the same or the following day. We see it as an advantage that both the interviewee and the interviewer can do the interview whenever they like. We also hope and expect that we can cut cost because we already have a first impression before the interview. Respondent 8

When fewer interviews are conducted in an international setting, costs for travel and accommodation of applicants can also be saved. The interviewed recruiter however doesn't have enough experience with the use of video interviews to conclude that this indeed resulted in time and cost savings.

Another advantage that is seen by different recruiters is that it is possible to view the video interview, and get a first impression of the candidate, from any location. The advantage is that not everyone involved in the selection has to be present at the first meeting with a candidate:

"A very practical advantage, and also effective: For this vacancy, three different people were involved in the recruitment process. They all work from different locations. You don't have to put your agendas together to see

Other consequences

Recruiter reactions

Some hr professionals indicated that a reason for implementation of video interviews was that they like to work with innovative technologies. Different interviewees indicated that they like to work with video interviews. However, when asked about advantages and disadvantages of using video interviews, nobody has indicated that it was an issue whether they like to work with the system. It thus seems that, although different interviewees indicated that they like to work with the system, this isn't a major issue.

Other consequences

Some interviewees have indicated that other consequences could be an issue. These consequences aren't observed, but recruiters could imagine that these could be issues when using video interviews. One recruiter indicates that it is impersonal to use video interviews.

Another interviewee who had advised multiple other companies to make use of video interviews said:

"A disadvantage is that it is one-sided. A candidate records a video. An employer should get a more active role in this system. A recruiter should record the asked questions; he should be visible to the candidate. This makes it much more personal. These disadvantages are however "peanuts" compared to the advantages." Respondent 7

Since these are perceptions of HR-professionals instead of the perceptions of applicants themselves, it is unknown whether applicants perceive the system as impersonal, or experience the opposite since a personal is video is added to the résumé selection which is based on hard criteria. We are unable to judge the perceptions of applicants based on the current research, but acknowledge that a change in the described perception could be a consequence of implementing the technology.

Another issue organizations should deal with is how their employees work with the videos. An example that is given is that it should only be possible to view the videos for those people who have to judge them. Therefore, guidelines on how to deal with the videos

should be in place. Another recruiter also indicates that it is necessary to use certain guidelines, also for how applicants are judged:

"It is more difficult to make an objective judgment of a clip. It is a short video, of a few minutes. It will be judged more subjectively. With a résumé, you have some hard criteria you select on, it is a factual judgment. When you use these videos, you have to agree with each other on what you are selecting. It is not more than a first impression, what one person likes isn't what another does. It is difficult to objectify" Respondent 1

These issues should be considered when video interviews are used. However, this is mainly an implementation issue, and not a consequence that occurs once the system is in use.

Overview of consequences

The discussed consequences are summarized in the following table, to provide an overview of both advantages and disadvantages of using video interviews in pre-selection.

Stage of the selection process	Effect on:	Advantage	Disadvantage
Pre-selection stage	Number of applicants in pre-	Lower number of applications:	Lower number of
_	selection	Unsuitable candidates are	applications
		filtered out	Suitable candidates
			are possibly filtered
			out.
			Can result in too little
			applications
	Quality of analized to in and		applications
	Quality of applicants in pre	Quality of applications remains	
	selection	equal, or is higher in some	
		cases	
	Time needed for pre-		Little additional time
	selection		needed in most
			situations, one
			interviewee indicated it
			took a lot of time
	Quality of pre-selection	Additional information available	A wrong pre-selection
	process	resulting in:	decision can result in an
		Better pre-selection	un-objective judgment
		decisions	during face-to-face
		• Finding suitable applicants	interview
		with a bad résumé	
		Rejecting unsuitable	
		applicants because of	
		personality	
		personality	
Selection stage	Number of applicants in	Lower number of applicants,	
	selection	resulting in fewer interviews to	
		conduct	
	Quality of applicants in	Higher quality of applicants,	
	selection	resulting in higher success rate	
		during selection process	
	Costs of selection	Lower costs, because fewer	
		face-to-face interviews are	
		conducted	
Overall consequences	Number of hires	Remains equal in m	ost situations
			In some situations, too
			little applications come
			in resulting in unfilled
			vacancies
	Quality of hires	Remains e	
	-		yuai
	Overall costs	Costs are reduced because of	
		cost reductions for the selection	
		process	

Table 8 overview of consequences of implementing video interviews

Chapter 5 Results of the experiment

5.1 Quality of pre-selection decisions

The first goal of the experiment was to see whether the agreement between recruiters increased when more information was provided to them. Analyzing the agreement for all items indicated that more information didn't result in higher levels of agreement. Judging résumés gave a similar positive correlation between recruiters as for judging videos (0.62 for résumés and 0.55 for videos respectively). In the condition were recruiters judged the combination of résumé and video, the correlation between their answers was remarkably lower (0.37). The overall picture thus didn't show that higher information richness results in better judgments. During the interviews, different respondents indicated that certain competencies of applicants could be judged better using a résumé, and that a video was more suitable to predict the soft skills of applicants. Therefore, the five attributes (intelligence, motivation, leadership skills, interpersonal skills and overall qualifications) were analyzed separately.

Intelligence

The judgment of an applicant's intelligence showed a moderate correlation when résumés were used. For both situations were recruiters were able to watch a video, the correlation between their answers was weak. This indicates that a résumé is somewhat usable to analyze someone's intelligence, but that a video is not suitable for such an analysis, even if a résumé is available too.

Motivation

Respondents have indicated that a video gives them some idea of motivation. We saw a weak-to-moderate correlation between the scores given by recruiters 1 and 2, who used résumés in their judgments. A moderate correlation was seen in the situation were videos were judged, which is in line with interview results. Again, the combination of résumé and video showed a weak link between evaluations of both recruiters.

Leadership

Leadership is a skill that could possibly be judged using a video, but likely not using only a résumé. Recruiters who used a résumé indicated for 3 out of 5 applicants to be unsure about their leadership skills, scoring 4 points out of 7 on all items. For 1 applicant, a

recruiter agreed moderately that this candidate has leadership skills. His colleague however was unsure an all items. For the fifth applicant, both recruiters agreed that she possessed leadership skills. This was acknowledged by their colleagues who judged videos. It therefore seems that it's sometimes possible to get a clue of someone's leadership capabilities from a résumé, but not in the majority of situations.

As predicted by different respondents, the agreement between recruiters who watched videos only was high, which indicates that it's possible to determine leadership skills from a video. However, in the situation were both résumés and video were available, a low correlation was found.

Interpersonal skills

As expected, judging interpersonal skills using a résumé doesn't seem to work. The recruiters in this situation indicated to be unsure about all items measuring this attribute except for one. This item measured the language skills of the applicants, for which both recruiters gave a positive judgment for all five applicants. The only clue they could use for their judgment was the written text on the résumés. All recruiters who had the ability to watch a video agreed with each other that the language skills of applicants were good, except for one. This indicates that fluency in speech can't be determined using a résumé, which obviously only reflects the writing skills of a candidate, but can be seem from a video. In the situation were recruiters could only see a video, a moderate correlation was found between judgments of the two raters. In the setting with a combination of video and résumé, a weak-to-moderate correlation was found.

Qualifications

When the overall qualifications of applicants are judged, a high level of agreement is found for the recruiters using only résumés. For two applicants, the scores on 5 items are exactly the same for both recruiters. For the other applicants, the differences in judgments are at most one point per item. This is no surprise because recruiters are used to systematically scan résumés for the qualifications of an applicant. Recruiters who judged videos had more difficulties in their judgments. Their ratings were only moderately correlated. An explanation for this could be that some applicants referred to their work or educational experience in their videos. The agreement between recruiters who judged the combination showed no relation between their ratings. In table 9, an overview of the levels of correlation between the judgments of recruiters is given.

Attribute	résumé	video	Résumé + video
Intelligence	moderate	weak	Weak
Motivation	weak to moderate	moderate	weak
Leadership skills	unable to judge	strong	weak
Interpersonal skills	unable to judge	moderate	weak to moderate
Qualifications	strong	moderate	no correlation

Table 9 overview of correlations between judgments of recruiters

It is in line with our expectations that the judgment of intelligence and overall qualifications gives the highest level of agreement when a résumé is used, and that motivation, leadership- and interpersonal skills can be judged better using a video. However, in the situation were recruiters are provided with all available information, the agreement between recruiters is low. This is an indication that it was difficult for them to make an accurate judgment. An explanation for our finding could be that recruiters had difficulties to select the most appropriate medium (résumé or video) to judge certain attributes. The fact that the order of items in the questionnaire was randomized required them to constantly switch from one attribute to another, which would also require to switch attention from video to résumé and vice versa. It could therefore be that the experimental design caused low agreement between recruiters. Organizations who plan to use video's in their pre-selection process should however be aware that judging all applicant characteristics similarly could increase complexity. In such a case, an option could be to judge soft criteria after a résumé pre-selection on hard criteria is done.

5.2 Effect of medium on decisions to invite for a job interview

The recruiters who used résumés to evaluate applicants gave all applicants a neutral or positive overall evaluation. Both recruiters would have invited everyone for an interview. Recruiters judging videos gave neutral or positive judgments about 3 applicants and would invite them. The other two applicants were judged negatively by both raters, and both recruiters indicated to be uninterested to meet with them. In the situation were a combination of video and résumé was used, the three applicants that passed pre-selection

in the other situations were judged neutral to positive in this setting too, and would have been invited. The evaluations for the two applicants who got negative judgments based on their video got evaluations that fall between the negative judgment for the video and the neutral to positive judgments for their videos. One applicant would have been invited by both recruiters. The other would be invited by only one recruiter. This illustrates that a bad video can be compensated by good résumé.

5.3 Effect on interview performance

The applicants who applied did this before a career fair at which they had the opportunity to meet recruiters from the participating company. A formal procedure wasn't started for 2 candidates. The reason for this is unknown. Candidate 3, who was rated high during the experiment and would have been invited by all six recruiters, had an interview during the fair at which the applicant performed very bad. Candidate 4, who had a good résumé and a bad video according to the experiment, was remarkably not invited for an interview based on his résumé. Candidate 5 had a telephone interview, and was invited for a face-to-face interview. The applicant canceled because he found a job elsewhere.

Our results are too limited to give an indication of the predictive value of résumés and videos as a predictor of interview performance. The illustration of candidate 3 however shows that flawlessly passing the pre-selection phase isn't a guarantee for a good performance in a face-to-face interview.

The second research step gave some confirmation of the interview findings. It indeed seems that résumés can be used to assess hard criteria but not for soft skills, and that videos can be used to get an idea of someone's soft skills. However, when recruiters can simultaneously make use of a video and a résumé, their judgments become less accurate. Our explanation for this finding is that the situation became too complex, making it difficult for the recruiters to use the correct source of information. Because the design of the experiment possibly increased complexity, it is not known whether judging a combination of video and résumé is difficult in real situations too.

Chapter 6 Discussion

By means of mixed method research we explored the consequences of using web-based video interviews in pre-selection. The results indicate that respondents perceive that the quality and efficiency of the selection process can be improved by implementing video interviews for the pre-selection of applicants. Here we discuss limitations of our approach, reflect on the insights we have gained from the research, and suggest future research needs and directions.

6.1 Limitations

Although our research provided interesting insights in the usage of web-based video interviews, it has several limitations that in their turn stress the strengths of the study. It should be noted once again that our research is exploratory, and the results only give insight in the perceptions of our respondents. Therefore, no absolute conclusions can be drawn from our findings.

The results from first empirical part, in which interviews were conducted, are limited because of the selected sample. Interviews were conducted with a small group of respondents from one country, who all use the same system from one technology provider. The sample is therefore not representative for the entire population of organizations using video interviews in the selection process. Because of the fact that interviewees were not randomly selected, but with the help of a technology provider, it could even be that the selected sample isn't a good representation of their customer base. Although we observed that respondents were not reluctant to discuss negative consequences of implementing video interviews, it could be that customers who were in a relatively good relationship with the provider could be more willing to invest time in the research, and were generally more positive about using video interviews.

Another limitation is the difference in duration of the interviews. During the interviews, it was seen that multiple respondents had only limited experience with the usage of video interviews. This is no surprise given the newness of video interviews, but as a result the responses of more experienced respondents gained more attention.

Because of the described limitations, generalizability of our findings is at stake. Results can therefore not be generalised towards the entire population of organizations using video interviews in the selection process. Even generalizing them towards the customer base of this one technology provider is questionable.

The usage of interviews has several other limitations. It is not possible to measure the impact or to grade the causes resulting in observed consequences. For example when the reduction in the number of applications is analysed. It possible to indicate some reasons for these reductions, but it is not possible to determine the most important cause, or to measure the impact of it on the number of applications.

Another limitation is that our results only uncover the initial perceptions of respondents about the consequences of using video interviews, which makes it impossible to draw definitive conclusions from those responses. We also relied on the willingness of respondents to give complete and accurate answers. Although our perception was that respondents were willing to give correct answers, it could be that some of them felt some hesitation to do so. For example because they could not give their responses anonymously. We tried to overcome this limitation by clarifying the goals of the research, and by elaborating on how their responses would be used.

Another limitation was the interpretation of interview responses. Since interviews generally provide much information which is hard to categorize, the strength of research depends on a correct interpretation of responses. All interviews were conducted and interpreted by one interviewer, who had only limited experience. This could have led to biased, incorrect interview results.

To overcome these limitations, another method was used in the form of an experiment that provided support for the interview findings. However, the second research step had several limitations, too.

First, the overall design of the experiment was very limited. It was executed within one organization, with a low number of candidates, as well as a low number of recruiters. It provides some additional insights in the consequences of using of video interviews, but only as an addition to the findings from the interviews.

The experiment was thus limited, using both a small sample of applications to be reviewed, and a small sample of recruiters to judge those applications. Not only the sample, but also the design had its limitations. Although analyzing inter-rater agreement could give an indication of the reliability of their judgments, it does not tell whether the judgments were valid. It would have strengthened the research when the pre-selection judgments would have been compared with outcomes of face-to-face interviews. Further, using a statistical measure within such a limited sample, for exploratory research is a strong limitation. It gave a bit of an indication of the reliability of judgments, but no more than that.

Although the sequential research design was used to strengthen the research, and results from both empirical stages are in line with each other, its limitations should be recognized.

6.2 Lessons learned

Despite the limitations of our research, it provided insights in the consequences of using video interview in the pre-selection of applicants. Our results are an overview of the perceptions of respondents, combined with an experiment supporting their views. It was possible to combine the views from these interviews to get a broader picture of the consequences of using video interviews. First the reasons for, and consequences of implementation are compared, which results in a gap between those. Second, the contingency factors that play a role when using video interviews are described. After this, we give possible explanations for the observed consequences of using video interviews in pre selection, and illustrate our findings in a framework of consequences. Finally, suggestions for future research are given.

6.2.1 Gap between reasons and consequences of implementation

Four groups of reasons for the implementation of video interviews were identified from the interviews. Recruiters expected several benefits because it is a new technology, it was expected that pre-selection of applicants would be better, the selection process would become more efficient and applicants should experience several benefits.

New technology

One reason for implementation of video interviews is that recruiters are interested in new technologies in recruitment. Different respondents have indicated to like the technology and to like to work with the system. Although one recruiter indicated that this pre-selection method resulted in a lot of additional work, there were no respondents who indicated not to like working with the system.

Other reasons for implementation of a new technology had to do with building and strengthening of a corporate image. Recruiters expect that working with a new technology helps building an image as an innovative organization. Their expectation is that this image results in the attraction of more applicants. From the interviews however, it became clear that recruiters didn't see direct effects on the number of applications because they were using video interviews. One recruiter expected that applicants who had experienced their process would tell others that this organization is an organization with a good recruitment and selection process. This could play a role in the decision of job candidates to apply. Although the newness of the technology and its effects on the attraction of applicants is seen as a reason for implementation, the consequences on the number of applications remains unclear.

Better pre-selection

Two reasons were given why the usage of video interviews would result in a better preselection. The first reason is that the method of applying is a selection tool in itself, since not everyone wants to record a video. The second reason is that recruiters get additional information about applicants, which gives them a better picture of those applicants.

It is seen that using video interviews indeed reduces the number of applications. In some cases, a reduction of more than 50% is seen. One respondent experienced that the implementation of video interviews resulted in too little applications. In other cases however, a larger percentage of applicants was invited for, and succeeded in job interviews when compared to the situation without video. Different recruiters also saw that the quality of applicants was high. The system thus seems to work as a good selection tool. It is however possible that usage of results in a too low amount of applications. Recruiters also indicated not to know whether they missed good candidates who didn't want to apply in this way. Using video interviews as a selection tool seems to work in some situations, in others however, it filters out to many candidates. Therefore, the success of using video interviews as selection tool seems situation dependent.

In pre-selection, recruiters get a better picture of applicants. Different respondents have indicated to be able to make a better decision on who should be invited, and which applicants should be rejected. It was also seen that applicants were more successful in interviews when compared to those applicants who were invited based on their résumé only. It thus seems that it possible to improve the quality of pre-selection decisions. In some situations however, the reduction in the number of applicants is too large to successfully improve the selection process.

Efficiency

Most respondents who implemented video interviews in their selection process wanted to save time by conducting fewer face-to-face interviews. In different situations, a reduction in the number of interviews was seen. In others however, recruiters couldn't indicate what the effect on efficiency was due to a lack of experience with the system. They however expect a reduction in the number of interviews. Some respondents also indicated that it was easier for multiple recruiters to get a first impression of the applicants because they didn't have to travel to one location. Recruiters also revealed that using video interviews saves time during face to face meetings because some questions were already answered by the applicants. Although it takes additional time to view video interviews, the time savings in the selection phase result in a more efficient process.

Advantages for candidates

According to the interviewed recruiters, using video interviews could save time for applicants. Because the success rate in face-to-face interviews was higher for applicants who were selected based on a video, the number of face to face interviews was also lower for interviewees. As a consequence, applicants have to show up for fewer interviews, which saves them interview time and travel time and costs. Another advantage for applicants is that a video can give them an opportunity to present themselves in case they would have been rejected based on their résumé. It is seen in practice that candidates who would otherwise have been rejected based on their résumé got invited because of a good video.

It is however unknown whether applicants experience these advantages of using video interviews.

To summarize, the perception of respondents is that different goals are reached with the implementation of video interviews. It seems that the pre-selection of applicants improves, and that the selection process becomes more efficient when video interviews are used.

Also, different advantages for job seekers have been observed, although it is unknown how applicants experience this themselves.

The main gap between reasons for implementation and its consequences lays in the attraction of applicants. In multiple situations, a large reduction in the number of applications is seen. Respondents were also not able to indicate how many additional job seekers were attracted since the moment at which video interviews were implemented. In some situations, the advantages of using video interviews compensated the reduction in applications. In others however, the implementation was not successful. The gap between implementation goals and experienced consequences therefore seems to be contingent on different factors.

6.2.2 Contingencies of using video interviews in pre-selection

The consequences of using video interviews seem to be contingent on different factors. Some are indicated by respondents themselves. Others became apparent when different situations revealed by different respondents were compared with each other.

Job function

The job function for which video interviews are used has an effect on the effectiveness of pre-selection. For some functions, the personality of employees is relatively important. In these situations, it is an advantage that this can be judged in the pre-selection phase. When personality is less important for a function, for example in some technical functions, the information that becomes available by watching a video interview plays a smaller role in pre-selection. Therefore, the effects of using video interviews are limited.

Importance of personality

It is also expected that for functions were certain personality characteristics, such as extraversion, are less important, the extent to which candidates possess them is lower on average. This would result in a lower willingness of candidates to apply via a video interview, and a lower amount of applications.

Educational level

In most situations, video interviews are used in vacancies for higher educated people. The expectation of recruiters is that these persons are more open for new experiences when compared to lower educated people. It could therefore be that video interviews are less suitable for vacancies for which a low educational level is needed.

Age

Multiple respondents have indicated that the willingness of candidates to record a video is related to their age. Their expectation is that younger people are better used to new technologies. Therefore, their willingness to apply via a video interview is expected to be higher. Some respondents have also indicated not to use this system for senior positions because they expect it to be a too big step for more senior people.

Labor market

It is expected that using video interviews reduces the number of applicants. In a tight labor market, using video interviews could reduce the number of applicants even further which could lead to a situation in which the vacancy isn't filled. In such a situation, job seekers likely have other opportunities for application. They could make use of an alternative for which it is easier to apply because a video interview isn't needed.

On the other hand, in a tight labor market recruiters have to invite applicants with a résumé that doesn't perfectly fit to see whether soft criteria can compensate for this. In these cases, it can save time when recruiters can already get a first impression of the applicants from a video interview.

Usage of other selection tools

Some organizations make use of multiple pre-selection tools. Video interviews are combined with assessments in which the competencies of applicants are tested. A senior HRM consultant indicated that the combination of different tools makes the pre-selection of applicants much stronger. All selection tools give distinct information about an applicant, which results in a more complete picture of the applicant. Using video interviews seems more effective when these are combined with for example an internet based assessment.

Number of available job positions

In situations where multiple positions are available for the same function, the number of face-to-face interviews to be done is generally higher. In these cases, an improvement in the efficiency of the selection process will have a larger impact. The consequences of using video interviews are thus more visible in these situations.

6.2.3 Explanation of observed consequences

Applicant attraction

Implementation of video interviews in pre-selection results in a reduction in the number of applicants, and, in some situations, an increase in applicant quality. Some candidates who didn't apply indicated that they didn't possess a webcam. Applicants who applied said that they were nervous, and that recording a video interview was difficult to do. Recruiters received questions from applicants asking whether they were selecting on the looks of applicants instead of on personality.

Different explanations can be given for why a reduction in applications is seen. Williamson, Lepak & King (2003) found that a website designed to select was less attractive for applicants. Further, the outcome expectancies of applicants are related to their intention to apply. Because multiple applicants indicated to be nervous to record a video, and that it was difficult to do, their outcome expectations were likely to be low as well, resulting in a lower intention to apply. The fact that different applicants asked whether they were judged on their looks gives an indication that they lack a clear understanding of the system. It is therefore not unlikely that the accuracy of video interviews as a selection tool is questioned. According to Reeve & Schultz (2004), intentions to apply are related to applicant's perception of selection process accuracy. Although we don't know what the exact reason for the reduction in applications is, multiple factors that are of influence could be given.

Applicant quality

Another effect that was observed is an increase in applicant quality. Although different theoretical notions exist indicating that the implementation of e-recruitment systems results in a large pool of low-quality applicants, no underlying theory was used to explain

why changes in quality are seen. The interviewed recruiters could however give an explanation.

One explanation was that candidates who lacked certain communication skills would also be reluctant to apply. Another explanation was that applicants have to put additional effort in their application by arranging a webcam or preparing for the interview. This would discourage candidates who aren't highly motivated to apply. The perception of recruiters was that unmotivated applicants were generally unsuitable candidates. Both explanations indicate that not only organizational attractiveness is important to receive a high number of applications. Also the effort candidates have to put into an application affects the amount of applicants. Even more interesting is the fact that the effort candidates have to put into an application is related to the quality of those who apply.

The implementation of video interviews thus results in lower attractiveness because of 1) a selection oriented instead of recruitment oriented website, 2) lower outcome expectations because candidates don't fully understand the system, 3) applicants questioning the accuracy of video interviews as a selection tool, and 4) the additional effort candidates have to make in order to record a video. It seems that the 4th reason is moderated by the quality of candidates. The effect of this moderation is that candidates are less likely to apply when additional work is needed to apply, but that this effect is lower for high quality candidates.

Quality of pre-selection decisions

The respondents revealed that the quality of pre-selection decisions increased when video interviews were used. This was in line with expectations based on claims from technology providers and media richness theory. (Daft & Lengel, 1986) Our expectation was that media richness of videos interviews was higher than that of résumés, which would result in better decisions. The experiment revealed that pre-recorded video interviews are not necessarily richer in information than résumés, but provide recruiters with different information. Résumés provide judgers with information about intelligence and overall qualifications of applicants. Video interviews enable recruiters to judge motivation, leadership- and interpersonal skills. Because applicants aren't asked about hard criteria like education and work experience during video interviews, it is difficult for recruiters to judge these attributes using only a video. Media richness of pre-recorded video interviews is thus not necessarily higher than that of résumés. These interviews however provide recruiters with information about other attributes than résumés do. When video interviews are used in pre-selection, both résumés and videos are available to recruiters. In these situations, recruiters are able to judge more attributes than when only résumés are available. The combination of video and résumé thus has a greater media richness, resulting in better decisions. During our experiment, selection decisions of those recruiters who used both a video and a résumé were however not better, probably due to the design of the experiment. This is however an indication that the way in which pre-selection is done influences its effectiveness.

Trade-off between quality and quantity of applicants

Our results indicate that it's indeed possible to make a trade-off between the number of applicants who are invited for the selection stage, and the quality of those applicants. This is in line with the view of Thompson e.a. (2008). In one situation however, it was seen that the result of the selection process was that many more suitable candidates were found than job positions were available. It seemed that this was caused by inexperience with the usage of video interviews, since video interviews were used for the first time within that organization. The expectation was that next time a better trade-off could be made, and that the current result was more or less an implementation issue.

6.2.4 Framework illustrating the consequences of implementing video interviews

In the following figure, an overview is given of how the implementation of video interviews leads to the consequences observed in the empirical part of the research. This framework illustrates the effects of video interview implementation in the pre-selection process.

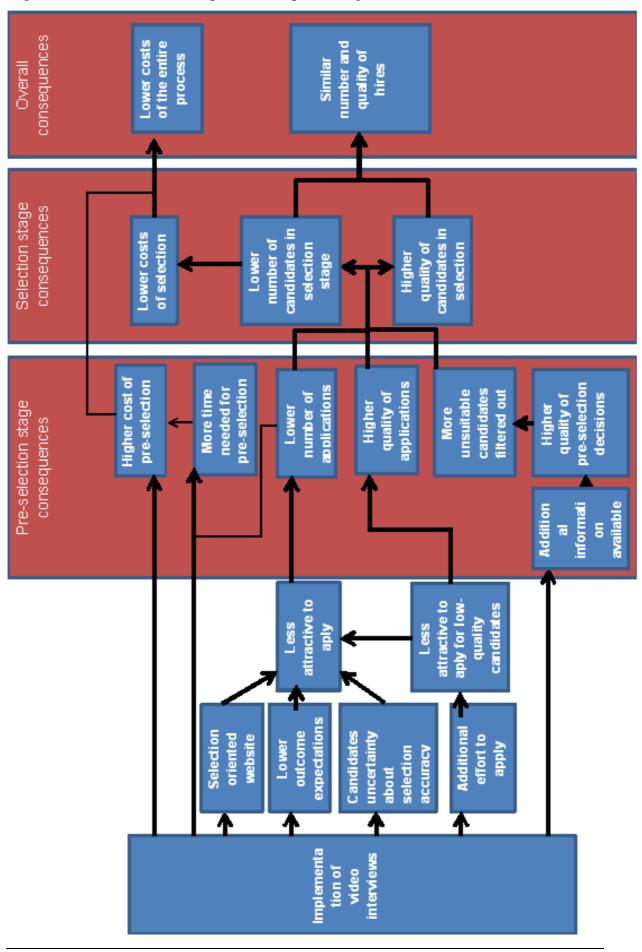


Figure 20 Overview of the consequences of implementing video interviews

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Consequences of using Pre-Recorded Video Interviews as a (pre-) Selection Tool

6.3 Future research

Although our research has several limitations, the goal of exploring consequences of the usage of video interviews has been achieved. However, different issues need further investigation. Results show that a large reduction in the number of applications is seen at several organizations. The perception of respondents is that unsuitable candidates are filtered out. Additional research should reveal why this reduction is seen, what its effect is on the amount and quality of applications, and how organizations can deal with it.

The experiment indicated that soft skills of applicants can be judged using a video. Future research is needed to analyse exactly which competencies can be derived from a video, and how reliable they can be judged. Our results indicated that its possible to train in order to perform better in a video interview. Different respondents revealed that they had seen applicants who had prepared their interview answers. It is however unknown what the exact effects are of training in order to make a good impression during a video interview. Therefore, the effect of impression management methods on the reliability of judgments should be incorporated in future research. The reliability of selection decisions based on pre-recorded video interviews should not only be compared with other measurement tools, its predictive value for interview outcomes and for job performance should be analysed as well. This will give a better understanding on how video interviews can be used in pre-selection, and what its impact is on the selection process.

Together with a study on the cost effects of reducing the number of face-to-face interviews, it will provide a better understanding of the effect of using video interviews on the efficiency and effectiveness of the selection process.

References

- Allen, D., Mahto, R., & Otondo, R. (2007). Web-based recruitment: Effects of information, organizational brand, and attitudes toward a Web site on applicant attraction. *Journal of Applied Psychology*, 1696-1708.
- Anderson, N. (2003). Applicant and recruiter reactions to new technology in selection: A critical review and agenda for future research. *International Journal of Selection and Assessment*, 121-136.
- Barrick, M., Shaffer, J., & DeGrassi, S. (2009). What You See May Not Be What You Get: Relationships Among Self-Presentation Tactics and Ratings of Interview and Job Performance. *Journal of Applied Psychology*, 1394-1411.
- Bartram, D. (2000). Internet recruitment and selection: Kissing frogs to find princes. *International Journal of Selection and Assessment*, 261-274.
- Bauer, T., Truxillo, D., Paronto, M., Weekley, J., & Campion, M. (2004). Applicant reactions to different selection technology: Face-to-face, interactive voice response, and computer-assisted telephone screening interviews. *International Journal of Selection* and Assessment, 135-148.
- Bauer, T., Truxillo, D., Tucker, J., Weathers, V., Bertolino, M., Erdogan, B., et al. (2006). Selection in the information age: The impact of privacy concerns and computer experience on applicant reactions. *Journal of Management*, 601-621.
- Blackman, M. (2002). The Employment Interview via the Telephone: Are We Sacrificing Accurate Personality Judgments for Cost Efficiency? *Journal of Research in Personality*, 36, 208-223.
- Becker, W., Connolly, T., & Slaughter, J. (2010). THE EFFECT OF JOB OFFER TIMING ON OFFER ACCEPTANCE, PERFORMANCE, AND TURNOVER. *Personnel Psychology*, 223-241.
- Blackman, M. (2002). The Employment Interview via the Telephone: Are We Sacrificing Accurate Personality Judgments for Cost Efficiency? *Journal of Research in Personality*, 36, 208-223.
- Bondarouk, T. (2011). Theoretical approaches to E-HRM implementations. In: Bondarouk, T., Ruël, H.J.M., & Looise, J.C. (2009) (Eds.). *Electronic HRM in Theory and Practice*, Elsevier Science, *forthcoming*.
- Chapman, D., & Rowe, P. (2002). The influence of videoconference technology and interview structure on the recruiting function of the employment interview: A field experiment. *International Journal of Selection and Assessment*, 185-197.
- Chapman, D., Uggerslev, K., Carroll, S., Piasentin, K., & Jones, D. (2005). Applicant attraction to organizations and job choice: A meta-analytic review of the correlates of recruiting outcomes. *Journal of Applied Psychology*, 928-944.
- Chapman, D., Uggerslev, K., & Webster, J. (2003). Applicant reactions to face-to-face and technology-mediated interviews: A field investigation. *Journal of Applied Psychology*, 944-953.
- Chapman, D., & Webster, J. (2003). The use of technologies in the recruiting, screening, and selection processes for job candidates. *International Journal of Selection and Assessment*, 113-120.
- Chapman, D., & Webster, J. (2006). Toward an integrated model of applicant reactions and job choice. *International Journal of Human Resource Management*, 1032-1057.
- Chen, Y., Tsai, W., & Hu, C. (2008). The influences of interviewer-related and situational

factors on interviewer reactions to high structured job interviews. *International Journal of Human Resource Management*, 1056-1071.

- Clooks. (2010). Audiovisuele e-recruitmentoplossingen. Retrieved October 18, 2010 from http://www.clooks.com
- Cole, M.S., Field, H.S., Giles, F.G. & Harris, S.G. (2004). Job Type and Recruiters' Inferences of Applicant Personality Drawn from Resume Biodata: Their Relationships with Hiring Recommendations. *International Journal of Selection and Assessment*, 363-367.
- Daft, R.L. & Lengel, R.H. (1984). Information Richness: A New Approach to Manager Information Processing and Organization Design. *Research in Organizational Behavior*
- Daft, R.L. & Lengel, R.H. (1986). Organizational information requirements, media richness and structural design. *Management Science* 32(5), 554-571.
- Elgin, P., & Clapham, M. (2004). Attributes associated with the submission of electronic versus paper resumes. *Computers in Human Behavior*, 535-549.
- Ettinger, E., Wilderom, C. & Ruel, H. (2009). Service-Quality Criteria of Web Recruiters: A Content Analysis. Hicss, pp.1-1-, 42nd Hawii International Conference on System Sciences, 2009
- Frost, M. (2001). Video Interviewing: Not Yet Ready For Prime Time. HR Magazine, 2001 (august), 93-98.
- Fullwood, C. (2007). The effect of mediation on impression formation: A comparison of face-to-face and video-mediated conditions. *Applied Ergonomics*, 267-273.
- Hirevue. (2010). The Original Online Video Job Interview. Retrieved October 18, 2010, from http://www.hirevue.com
- Holm, A. (2009). Virtual HRM: A Case of E-recruitment. Unpublished manuscript, University of Aarhus, Aarhus, Denmark.
- Interviewstudio (2010). Welcome to Interviewstudio. Retrieved October 18, 2010, from http://www.interviewstudio.com
- Jones, J., Brasher, E., & Huff, J. (2002). Innovations in integrity-based personnel selection: Building a technology-friendly assessment. *International Journal of Selection and Assessment*, 87-97.
- Kim, S., & O'Connor, J. (2009). Assessing Electronic Recruitment Implementation in State Governments: Issues and Challenges. *Public Personnel Management*, 47-66.
- Lievens, F. & Peeters, H. (2008). Interviewers Sensitivity' to Impression Management Tactics in Structured Interviews. European Journal of Psychological Assessment, 24 (3), 174-180.
- Macan, T. (2009). The employment interview: A review of current studies and directions for future research. *Human Resource Management Review*, 203-218.
- Pfieffelmann, B., Wagner, S., & Libkuman, T. (2010). Recruiting on Corporate Web Sites: Perceptions of fit and attraction. *International Journal of Selection and Assessment*, 40-47.
- Ployhart, R. (2006). Staffing in the 21st century: New challenges and strategic opportunities. *Journal of Management*, 868-897.
- Posthuma, R., Morgeson, F., & Campion, M. (2002). Beyond employment interview validity: A comprehensive narrative review of recent research and trends over time. *Personnel Psychology*, 1-81.
- Reeve, C., & Schultz, L. (2004). Job-seeker reactions to selection process information in job ads. *International Journal of Selection and Assessment*, 343-355.
- Straus, S., Miles, J., & Levesque, L. (2001). The effects of videoconference, telephone, and

face-to-face media on interviewer and applicant judgments in employment interviews. *Journal of Management*, 363-381.

- Strohmeier, S. (2009). Concepts of e-HRM consequences: a categorisation, review and suggestion. *International Journal of Human Resource Management*, 528-543.
- Thompson, L., Braddy, P., & Wuensch, K. (2008). E-recruitment and the benefits of organizational web appeal. *Computers in Human Behavior*, 2384-2398.
- Tsai, W., Chen, C., & Chiu, S. (2005). Exploring boundaries of the effects of applicant impression management tactics in job interviews. *Journal of Management*, 108-125.
- Van Iddekinge, C., Raymark, P., Roth, P., & Payne, H. (2006). Comparing the psychometric characteristics of ratings of face-to-face and videotaped structured interviews. *International Journal of Selection and Assessment*, 347-359.
- Wegge, J. (2006). Communication via videoconference: Emotional and cognitive consequences of affective personality dispositions, seeing one's own picture, and disturbing events. *Human-Computer Interaction*, 273-318.
- Williamson, I., Lepak, D., & King, J. (2003). The effect of company recruitment web site orientation on individuals' perceptions of organizational attractiveness. *Journal of Vocational Behavior*, 242-263.

Appendixes

Appendix A – Overview of articles and possible consequences of using video interviews

								quer egor	
author	title	in journal	cost	quality	time	Impression	Applicant	Interview structure	Recruiter perceptions
Allen e.a. (2007)	Web-Based Recruitment: Effects of Information, Organizational Brand, and Attitudes Toward a Web Site on Applicant Attraction	Journal of applied psychology					x		
Anderson & Witvliet (2008)	Fairness Reactions to Personnel Selection Methods: An international comparison between the Netherlands, the United States, France, Spain, Portugal, and Singapore	International Journal of Selection and Assessment					x		
Anderson (2003)	Applicant and Recruiter Reactions to New Technology in Selection: A Critical Review and Agenda for Future Research	International Journal of Selection and Assessment	x	x		х	x	x	
Barrick e.a. (2009)	What You See May Not Be What You Get: Relationships Among Self-Presentation Tactics and Ratings of Interview and Job Performance	Journal of applied psychology		x		х		x	
Bartram (2000)	Internet recruitment and selection: kissing frogs to find princes	Internet recruitment and selection	х	х					
Bauer e.a. (2004)	Applicant Reactions to Different Selection Technology: Face-to-Face, Interactive Voice Response, and Computer-Assisted Telephone Screening Interviews	International Journal of Selection and Assessment	x	x			x		
Bauer e.a. (2006)	Selection in the Information Age: The Impact of Privacy Concerns and Computer Experience on Applicant Reactions	Journal of Management					x	x	
Beckerea (2010)	THE EFFECT OF JOB OFFER TIMING ON OFFER ACCEPTANCE, PERFORMANCE, AND TURNOVER	Personnel Psychology	x	x	x		x		
Berry e.a. (2007)	A REVIEW OF RECENT DEVELOPMENTS IN INTEGRITY TEST RESEARCH	Personnel Psychology	х	х			х		
Blackman (2002)	The Employment Interview via the Telephone: Are We Sacrificing Accurate Personality Judgments for Cost Efficiency?	Journal of Research in Personality	х					x	
Bolino e.a. (2008)	A Multi-Level Review of Impression Management Motives and Behaviors	Journal of Management				х		х	
Braddy e.a. (2006)	ORGANIZATIONAL RECRUITMENT WEBSITE EFFECTS ON VIEWERS' PERCEPTIONS OF	Journal of Business and Psychology		х			х		

	ORGANIZATIONAL CULTURE							ĺ	
Braddy e.a. (2008)	Online recruiting: The effects of organizational familiarity, website usability, and website attractiveness on viewers' impressions of organizations\	Computers in Human Behavior					x		
Celani e.a. (2008)	In justice we trust: A model of the role of trust in the organization in applicant reactions to the selection process	Human Resource Management Review					x	x	
Chapman & Rowe (2002)	The influence of videoconference technology and interview structure on the recruiting function of the employment interview: a field experiment	International Journal of Selection and Assessment					x	x	
Chapman & Webster (2003)	The Use of Technologies in the Recruiting, Screening, and Selection Processes for Job Candidates	International Journal of Selection and Assessment	х	x					
Chapman & Webster (2006)	Toward an integrated model of applicant reactions and job choice	International Journal of Human Resource Management					х		
Chapman & Zweig (2005)	DEVELOPING A NOMOLOGICAL NETWORK FOR INTERVIEW STRUCTURE: ANTECEDENTS AND CONSEQUENCES OF THE STRUCTURED SELECTION INTERVIEW	Personnel Psychology					х	х	Γ
Chapman e.a. (2003)	Applicant Reactions to Face-to-Face and Technology-Mediated Interviews: A Field Investigation	Journal of applied psychology	х				x	х	
Chapman e.a. (2005)	Applicant Attraction to Organizations and Job Choice: A Meta-Analytic Review of the Correlates of Recruiting Outcomes	Journal of applied psychology					x		
Chen e.a. (2008)	The influences of interviewer-related and situational factors on interviewer reactions to high structured job interviews	International Journal of Human Resource Management		x				x	
Cober e.a. (2000)	The quest for the qualified job surfer: It's time the public sector caches wave	Public Personnel Management	х	х				1	
Cronin e.a. (2006)	Public sector use of technology in managing human resources	Human Resource Management Review	х						
Elgin & Clapham (2004)	Attributes associated with the submission of electronic versus paper resumes	Computers in Human Behavior					х		
Ettinger & Wilderom (2008)	Attracting and Keeping Engineers in Online Career Communities: Where Network, Career and Community Research Meet							х	-
Ettinger & Wilderom (2008)	Sustainable e-Recruiting Portals: How to Motivate Applicants to Stay Connected throughout their Careers?						x		
Ettinger e.a. (2008)	Utilizing the Lead User Method for promoting Innovation in e-Recruiting		х					1	
Ettinger e.a. (2009)	Service-Quality Criteria of Web Recruiters: A Content Analysis		х	х				х	T
Frost (2001) white paper!	Video interviewing: not yet ready for prime time	HR Magazine				х			
Fullwood (2007)	The effect of mediation on impression formation: A comparison of face-to-face and video-mediated conditions	Applied Ergonomics		х					
Gilliland (2004)	The Importance of Organizational Justice in Personnel Selection: Defining When Selection Fairness Really Matters	International Journal of Selection and Assessment		x			x		
Groot&Gooty(2009)	Can Nonverbal Cues be Used to Make Meaningful Personality Attributions in Employment Interviews?	Journal of Business and Psychology	x	х		х		х	
Holm (2009)	Virtual HRM: A Case Of E-Recruitment		х		х		х		
Hoye,van & Lievens (2007)	Investigating Web-Based Recruitment Sources: Employee testimonials vs word-of- mouse	International Journal of Selection and Assessment	x						
Iddekinge e.a. (2006)	Comparing the Psychometric Characteristics of Ratings of Face-to-Face and Videotaped Structured Interviews	International Journal of Selection and Assessment	х	x		x	x	х	

Iddekinge e.a. (2007)	Antecedents of Impression Management Use and Effectiveness in a Structured Interview?	Journal of Management		х		х		x	
Jansen & Ettinger (2009)	USABILITY STUDY ON DUTCH E-RECRUITING SERVICES						x		
Jones & Dages (2003) lit. review	Technology Trends in Staffing and Assessment: a practice note	International Journal of Selection and Assessment		x			x		
Jones e.a. (2002)	Innovations in Integrity-Based Personnel Selection: Building a Technology-Friendly Assessment	International Journal of Selection and Assessment	х						
Kim & O'Connor (2009)	Assessing electronic recruitment implementation in state governments: issues and challenges	Public Personnel Management	x	x					
Kluemper & Rosen (2009)	Future employment selection methods: evaluating social networking sites	Journal of Managerial Psychology		х					
Langan (2000)	Finding the needle in the haystack: the challenge of recruiting and retaining sharp employees	Public Personnel Management							
Lee (2005)	Evaluation of Fortune 100 companies' career web sites	Human Systems Management	х				x		
Lee (2007)	An architecture for a next-generation holistic e-recruiting system	Communications of the ACM	х	х]	
Lievens & Harris (2003)	Research on internet recruiting and testing: current status and future directions	International Review of Industrial and Organizational Psychology	х	х			х		
Lievens & Peeters (2008)	Interviewers' Sensitivity to ImpressionManagement Tactics in Structured Interviews	European Journal of Psychological Assessment				x		x	
Lievens e.a. (2002)	Recent trends and challenges in personnel selection	Personnel Review							
Ma & Allen (2009)	Recruiting across cultures: A value-based model of recruitment	Human Resource Management Review					х	х	
Macan (2009)	The employment interview: A review of current studies and directions for future research	Human Resource Management Review				x		x	
Marchal e.a. (2007)	Job board toolkits: Internet matchmaking and changes in job advertisements	Human Relations					х		
McCrory (2000)	Nebraska" Whole Picture" Recruitment: From Paperwork to" People Work" Featuring the Personic Applicant Tracking System	Public Personnel Management	x						
Millar (2010)	Internet Recruiting in the Cruise Industry	Journal of Human Resources in Hospitality and Tourism	х						
Mohamed e.a. (2003)	The legality of key word search as a personnel selection tool	Employee Relations		х	х			1	-
Nickel & Schaumburg (2004)	Electronic Privacy, Trust and Self-Disclosure in E-Recruitment	Late Breaking Results Paper presented at CHI 2004					х		
Pfieffelmann e.a. (2010)	Recruiting on Corporate Web Sites: Perceptions of fit and attraction	International Journal of Selection and Assessment	х				х		
Ployhart & Harold (2004)	The Applicant Attribution-Reaction Theory (AART): An Integrative Theory of Applicant Attributional Processing	International Journal of Selection and Assessment					x		
Ployhart (2006)	Staffing in the 21st Century: New Challenges and Strategic Opportunities	Journal of Management	х	х		х	х	х	
Posthuma e.a. (2002)	BEYOND EMPLOYMENT INTERVIEW VALIDITY: A COMPREHENSIVE NARRATIVE REVIEW OF RECENT RESEARCH AND TRENDS OVER TIME	Personnel Psychology		x		x		x	
Potosky & Bobko (2004)	SELECTION TESTING VIA THE INTERNET: PRACTICAL CONSIDERATIONS AND EXPLORATORY EMPIRICAL FINDINGS	Personnel Psychology	x	x			x		
Potosky (2008)	A CONCEPTUAL FRAMEWORK FOR THE ROLE OF THE ADMINISTRATION MEDIUM IN THE PERSONNEL ASSESSMENT PROCESS	Academy of Management Review	x	х		х			

Putwain e.a. (2010)	Personal and situational predictors of test anxiety of students in post-compulsory education	British Journal of Educational Psychology					х		
Reeve&Schultz (2004)	Job-Seeker Reactions to Selection Process Information in Job Ads	International Journal of Selection and Assessment					x	х	
Schreurs e.a. (2005)	Attracting Potential Applicants to the Military: The Effects of Initial Face-to-Face Contacts	Human Performance					х		
Searle (2006) abstract	New technology: the potential impact of surveillance techniques in recruitment practices	Personnel Review	x	x	x		x		
Sieverding (2009)	'Be Cool!': Emotional costs of hiding feelings in a job interview	International Journal of Selection and Assessment				х	х		
Silvester & Anderson (2003)	Technology and Discourse: A Comparison of Face-to-face and Telephone Employment Interviews	International Journal of Selection and Assessment	x	х		х			
Silvester e.a. (2000)	A Cross-Modal Comparison of Telephone and Face-to-Face Selection Interviews in Graduate Recruitment	International Journal of Selection and Assessment	x	x					
Sing & Finn (2003)	The Effects of Information Technology on Recruitment	Journal of Labor Research	х	х					
Soman & Madan (2010)	SOCIAL SIGNALING: PREDICTING THE OUTCOME OF JOB INTERVIEWS FROM VOCAL TONE AND PROSODY			х		x			
Stone e.a. (2007)	The impact of cultural values on the acceptance and effectiveness of human resource management policies and practices	Human Resource Management Review		x			x		
Straus e.a. (2001)	The effects of videoconference, telephone, and face-to-face media on interviewer and applicant judgments in employment interviews	Journal of Management	x	х					
Sylva & Mol (2009)	E-Recruitment: A study into applicant perceptions of an online application system	International Journal of Selection and Assessment	х				х		
Thompson e.a. (2008)	E-recruitment and the benefits of organizational web appeal	Computers in Human Behavior	x	х			х		
Tsai e.a. (2005)	Exploring Boundaries of the Effects of Applicant Impression Management Tactics in Job Interviews	Journal of Management		х		х		x	
Wallace e.a. (2000)	Applying for Jobs Online: Examining the Legality of Internet-based Application Forms	Public Personnel Management							
Wegge (2006)	Communication via Videoconference: Emotional and Cognitive Consequences of Affective Personality Dispositions, Seeing One's Own Picture, and Disturbing Events	Human-Computer Interaction					x		
Willamson e.a. (2003)	The effect of company recruitment web site orientation on individuals perceptions of organizational attractiveness	Journal of Vocational Behavior		х			x		
Williamson e.a. (2010)	FIRM REPUTATION, RECRUITMENT WEB SITES, AND ATTRACTING APPLICANTS	Human Resource Management		х			х		

Appendix B Overview of empirical findings related to the usage of video interviews in selection processes

author	Research goal	methodology	findings
Allen e.a. (2007)	Test theoretical model of web- based applicant attraction	survey, n=814 students	job information (directly) and organization information (indirectly) related to intentions to pursue employment
Anderson & Witvliet (2008)	compare reactions to different selection methods, different countries	questionnaire, 167 students	popular: interviews, work sample tests, resumes not popular: graphology, personal contacts and honesty/integrity tests
Barrick e.a. (2009)	analyze relationships between self presentation tactics and ratings of interview and job performance	meta-analysis	relationships found, unstructured interview is particularly impacted
Bauer e.a. (2004)	examine reactions to ftf, ivr and cat interviews	317studentscompleting1screeningprocedure	IVR rated lower for 3 procedural justice factors, not for others
Bauer e.a. (2006)	examine influence of personal information privacy concerns and computer experience on reactions to online screening	simulating application (n=117) and field sample (n=396)	procedural justice and computer experience mediated between motivation, attraction and organizational intentions, but computer experience not in the laboratory sample
Beckerea (2010)	examine effect of job offer timing on offer acceptance, performance and turnover	archival study, field data, n=3012	early offers more likely to be accepted, no differences on performance and turnover
Blackman (2002)	compare accuracy of personality judgment for telephone and face to face	n=33 for ftf, n=27 for telephone	face to face was significantly more accurate
Braddy e.a. (2006)	examine effects of recruitment website on viewers perceptions of organizational culture	48 psychology students answering questions about website and culture	both website design and information about values, policies awards and goals affected culture perceptions
Braddy e.a. (2008)	test whether recruitment websites influence viewers opinion of recruiting organizations	pretest-posttest, 217 students	viewing website affected organizational favorability, image and attractiveness
Chapman & Rowe (2002)	analyze effect of videoconference technology and interview structure on employment interview	experiment, n=92 job applicants	ftf higher attraction and satisfaction when less structured interviews, video higher satisfaction in structured interviews
Chapman & Webster (2003)	technology use, what technology, goals, results and organizational factors that lead to adopting technology	survey, hr professionals from 125 organizations	technology use is in a state of flux
Chapman & Webster (2006)	test whether other factors as procedural justice affects applicant reactions	longitudinal field study, n=588	signal and expectancy affected applicant reactions
Chapman & Zweig (2005)	examine antecedents and consequences of structured interview	2 sample field study, 812 interviewees, 592 interviewers	interviewers with formal training and interviewers with selection focus use more structure, interviewers were confident to identify best candidates regardless of structure, applicants reacted negatively to difficulty of structured interviews, procedural justice not affected
Chapman e.a. (2003)	reactions to face to face and technology (video/phone) mediated interviews	field study, 802 applicants	face to face more fair and higher job acceptance intentions, perceived outcomes higher for ftf and phone, self monitoring moderated relationship between medium and fairness perceptions
Chapman e.a. (2005)	analyze correlates of recruiting outcomes	meta-analysis	attraction outcomes predicted by job-organization characteristics, recruiter behaviors, perceptions of the process, hiring expectancies and perceived fit
Chen e.a. (2008)	influence of interview related and situational factors on interviewer reactions to highly structured interviews	questionnaire, 292 interviewers	analytic interviewers and interviewers in firms with high interview norms reacted positively to HIS
Elgin & Clapham (2004)	electronic vs. paper resume submitting effects	100 students reviewing resumes	paper resume applicant more friendly, electronic more intelligent, technologically advanced and possessing better qualifications
Ettinger & Wilderom (2008)	why do applicants stay connected to a recruitment portal	interviews, 60 applicants, 3 system analysts	niche recruiting is important, pay attention to users' social and psychological requirements

		and 5 programmers	
Ettinger & Wilderom (2008)	why stay applicants connected to a recruitment portal	interviews, 60 applicants, 3 system analysts and 5 programmers	niche recruiting is important, pay attention to users' social and psychological requirements
Ettinger e.a. (2008)	innovation recruiting, re-use of portal	lead user method, 60 applicants, 15 lead users	community and social network features, treating differently various user groups pays off
Ettinger e.a. (2009)	service quality criteria of web recruiters	73 interviews and content analysis	quantity of applicants is most important
Fullwood (2007)	comparing face to face and video	48 students completing mind reading task	video participants less likeable and intelligent
Groot&Gooty(2009)	relation between nonverbal cues and interview ratings	110 managers rated by 26 hr people	nonverbal cues are important for interview ratings
Hoye,van & Lievens (2007)	web-based testimonials vs. word-of-mouse	108 nurses	word-of-mouse associated with higher attractiveness, applicants more attracted when testimonials provided information about individuals instead of information about the organization
Iddekinge e.a. (2006)	Comparing characteristics of ftf and video ratings	113 students, rated ftf and video	ftf ratings higher than videotaped interviews of the same interviewees
Iddekinge e.a. (2007)	antecedents if impression management use and effectiveness in structured interviews	132 students, simulated interviews	IM had less effect in strong situations
Jansen & Ettinger (2009)	expectations and limitations of e-recruiting services	8 students	lack of personal communication and contact
Kim & O'Connor (2009)	status and issues in implementation of e- recruitment systems	surveys, 10 states u.s.	differences in adoption, challenges were budget constraints, technica difficulties and HR staff adapting to change
Kluemper & Rosen (2009)	feasibility of social networking information in selection decisions	63 raters judging 6 subjects	judges were consistent and able to distinguish high from lov performers
Lievens & Peeters (2008)	interviewers' sensitivity to impression management	55 students and 18 professional interviewers	importance of IM was relatively small as compared to job related competencies, some effect for interview format
Lievens e.a. (2002)	trends and challenges is personnel selection	26 hr representatives	labor market shortages, technological developments, applican perceptions and construct driven approaches were major trends
Marchal e.a. (2007)	market intermediaries in	observing intermediaries and comparing job ads	information available to applicants is subject to filtering, search engine toolkits have considerable impact on ad content
McCrory (2000)	describing implementation of applicant tracking	case study	description of the implementation applicant tracking system in the state of Nebraska
Millar (2010)	examine whether cruise companies make use of internet-recruiting	content analysis of websites	e-recruiting methods are used, but not to their fullest capability
Nickel & Schaumburg (2004)	importance of perceived privacy to evoke user trust and self-disclosure	experiment, 2 websites, 12 participants	interface conveying a high level of privacy increased user trust
Pfieffelmann e.a. (2010)	job seeker attraction to organizations, reactions to online recruiting	120 job seekers judging corporate websites	Usability and person-organization fit were positively related to attraction, with p-o fit mediating the relation between usability and attraction. Only found for woman
Potosky & Bobko (2004)	comparison between paper and internet based selection tests	65 students	modest degrees of cross-mode equivalence
Putwain e.a. (2010)	relation between personal characteristics and test anxiety	175 students reporting data	relationships found between achievement goals and anxiety
Reeve & Schultz(2004)	examines if individuals use selection process information in job ads in decisions to apply	questionnaires, 207 students	individuals do make use of selection process information when making job-pursuit evaluations
Schreurs e.a. (2005)	effects of face-to-face contacts when attracting applicants for the military	surveys, 408 potential applicants	positive relationships between perceptions of the recruiter and intentions to apply
Sieverding(2009)	study display rules and emotional suppression in an employment interview	74 students, simulated interview, post- interview questionnaire	suppressors evaluated more competent, women's' emotiona suppression related to depressed state after interview
Silvester & Anderson (2003)	comparing face to face and telephone interviews	31 applicants, face to face and telephone interview	more causal attributions in telephone interview, personal attributions associated with higher ratings in phone interviews, attribution to globa causes in ftf interview results in lower rating

Silvester e.a. (2000)	comparing face to face and	70 candidates,	applicants are rated lower in phone interviews, candidates who first
	telephone interviews	receiving both ftf	have a phone interview perform better in face to face interview
		and phone	
		interview	
Soman & Madan	predicting interview outcomes	26 candidates,	successful candidates have a characteristic speaking style, interview
(2010)	from voice characteristics	interviews	outcomes can be predicted
Straus e.a. (2001)	effects of interview medium on	59 participants,	ratings higher for telephone vs. ftf, video not different from ftf,
	ratings	video, phone and	applicants react les favorable to video when compared to ftf
		ftf interviews	
Sylva & Mol (2009)	applicant reactions to web	field study, 1360	external (as opposed to internal), Belgian (as opposed to Dutch) and
	based recruitment and	applicants	internet savvy candidates were more satisfied with the online
	selection		procedure
Thompson e.a.	influence of website design on	182 participants	formatting more important than usability, impressions of the employer
(2008)	job seekers	reviewing online	mediated relationship between satisfaction with the website and
		job ad	willingness to pursue employment
Tsai e.a. (2005)	impression management:	151 job applicants	more structured interview leads to weaker relation between IM and
	moderating roles of interview		evaluation, same for low customer contact and longer interviews
	structure, customer contact		
	requirements and interview		
	length		
Wallace e.a. (2000)	legality of recruitment	content analysis of	most websites not in line with EEO guidelines
	websites	websites	
Wegge (2006)	emotional consequences of	2 experiments,	seeing one's own picture leads to negative reactions
	videoconferencing	n=88 and n-60	
Willamson e.a.	website effects on intentions	252 students,	website orientation and outcome expectancy influenced organizational
(2003)	to pursue employment	evaluating websites	attractiveness
Williamson e.a.	relationships between firm	277 students,	amount of company and job information, website vividness and firm
(2010)	reputation, website attributes	evaluating websites	reputation have a three way interactive effect on applicants'
	and applicant attraction	of 159 firms	perceptions and thus website effectiveness

Appendix C Interview protocol

- 1. Introduction to Research
 - Introduction of researcher
 - Goal of the research
 - Goal of this interview, usage of findings.
 - Confidentiality, permission to record the interview. Mention name of organization in paper?
- 2. Interview Agenda:
 - Introduction to the Research
 - Introduction of interviewee and organization
 - Reasons for implementation of Clooks
 - Way in which Clooks is used
 - Consequences of using Clooks
- 3. Introduction of interviewee and organization
 - Can you tell something about your job within <organization>?
- 4. Reasons for implementation of Clooks
 - When did you/your organization start to make use of Clooks?
 - How was the selection process done before this?
 - Why was it decided to use Clooks?
- 5. Way in which Clooks is used for recruitment & selection
 - How do you make use of Clooks? - order of usage: clooks - résumé, clooks only, résumé – clooks
 - How many "Clooks applications" do you receive per year?
 - For what job positions is Clooks used?
 - What applicant characteristics are important in the selection process?
 - Which of these characteristics are predicted using Clooks?
- 6. Consequences of using Clooks for the recruitment & selection process*

*Keep consequences from theory in mind, but don't ask for these. It's about their perceptions.

- What are the advantages of using Clooks for recruitment & selection?
- What are the disadvantages of using Clooks?**

**Pay attention to consequences for the R&S process, not to possible implementation issues. Research focuses on usage of Clooks, not on implementation.

- 7. Closing:
 - Do you have any questions or remarks regarding the interview?
 - Do you want to be informed about the results?
 - Thanks for your cooperation.

Appendix D Applicant evaluation questionnaire

Recruiter number: ... Candidate number:

...

Evaluation of: o résumé o video o video + résumé

Based on your review of the candidates' résumé/video, please answer the following questions.

1. Rate the applicant on the following statements, by circling the appropriate number on the scale: rating

	The applicant	Disagree strongly	Disagree moderately	Disagree mildly	Not sure/	Agree mildly	Agree Moderately	Agree strongly
1	Is intelligent	0	0	0	mixed o	0	0	0
	Is a self-starter	0		0		0		
2		-	0		0		0	0
3	Has good analytical skills	0	0	0	0	0	0	0
4	Is fluent in his language	0	0	0	0	0	0	0
5	Has leadership skills	0	0	0	0	0	0	0
6	Is friendly	0	0	0	0	0	0	0
7	Can direct others	0	0	0	0	0	0	0
8	Puts effort into submitting	0	0	0	0	0	0	0
	the resume / video							
9	Is bright	0	0	0	0	0	0	0
10	Can guide others	0	0	0	0	0	0	0
11	Is neighborly	0	0	0	0	0	0	0
12	Is entrepreneurial	0	0	0	0	0	0	0
13	Has the necessary job	0	0	0	0	0	0	0
	qualifications							
14	Is gifted	0	0	0	0	0	0	0
15	Has a warm personality	0	0	0	0	0	0	0
16	Takes initiative	0	0	0	0	0	0	0
17	ls smart	0	0	0	0	0	0	0
18	Is thoughtful	0	0	0	0	0	0	0
19	Has good communication skills	0	0	0	0	0	0	0
20	ls extravert	0	0	0	0	0	0	0
21	Has high incentive	0	0	0	0	0	0	0
22	I would hire this person for	0	0	0	0	0	0	0
	the job							
23	Is firm	0	0	0	0	0	0	0
24	Is highly motivated	0	0	0	0	0	0	0
25	Has good interpersonal skills	0	0	0	0	0	0	0
26	Is a competent applicant	0	0	0	0	0	0	0
27	Can manage others effectively	0	0	0	0	0	0	0
28	Has valuable job related experience	0	0	0	0	0	0	0
29	Is careful in developing the resume / video	0	0	0	0	0	0	0
30	Is a strong candidate for the job	0	0	0	0	0	0	0

2. Please indicate how well you were able to judge the candidate on the following criteria. I was able to make a good judgment of the following attributes of candidates:

		Disagree strongly	Disagree moderately	Disagree mildly	Not sure/ mixed	Agree mildly	Agree Moderately	Agree strongly
1	The applicants' intelligence	0	0	0	0	0	0	0
2	The applicants' motivation	0	0	0	0	0	0	0
3	The applicants' leadership	0	0	0	0	0	0	0
	skills							
4	The applicants'	0	0	0	0	0	0	0
	interpersonal skills							
5	The applicants'	0	0	0	0	0	0	0
	qualifications							

Please name job titles / functions that could be relevant for this candidate:

Not at all Very little Somewhat Very 1 I am interested to interview the 0 0 0 0 applicant: 2 How likely is it that you recommend 0 0 0 0 the applicant to be hired? 3 How likely is it that this applicant 0 0 0 0 within succeed will your organization?

What is your overall evaluation of the candidate:

_

	Very negative	Negative	Neutral	Positive	Very positive
What is your	0	0	0	0	0
overall evaluation					
of the candidate:					

Would you invite this candidate for a (phone-) interview? Yes / No

Please indicate why you made this decision: