The Opportunity to Upload Cover Letters and Procedural Fairness Perceptions: A Time Series Analysis

Michael Horvath
Cleveland State University

Organizations (though the design of their employment application websites) have the option of prohibiting or allowing certain types of traditional applicant communications such as cover letters. However, while doing so may streamline recruiting processes, it may come at a price. This study hypothesizes that the opportunity to submit cover letters during a selection process should improve procedural, but not interpersonal or informational, justice perceptions. Over a three-year period, 1,949 applicants rated their perceptions of the initial stage of an organization’s selection process. During this period, the organization changed only the applicants’ opportunity to upload cover letters. Time series analysis showed that average procedural justice perceptions increased at the same time as the cover letter intervention. Interpersonal and informational justice perceptions did not show a corresponding increase.

Over the last decade, organizations are beginning to incorporate the Internet into their personnel recruitment and selection systems. Some organizations are using web-based systems to manage their entire process, whereas others use the Internet for specific aspects of the process. According to a recent survey of Fortune 1000 corporations, almost 90% of those organizations used their websites and/or Internet job boards to recruit applicants (Piotrowski & Armstrong, 2006).

Not surprisingly, organizational scientists have begun to assess the implications of this transition (for instance, by looking at online vs. traditional assessment techniques (e.g., Ployhart, Weekley, Holtz, & Kemp, 2003) or how website characteristics influence applicant reactions (e.g., Cober, Brown, Keeping, & Levy, 2004)). However, organizational researchers have not yet examined all of the ways in which online selection systems can influence applicant reactions. In addition to differences between online vs. traditional testing mentioned above, selection systems can change in other ways as they transition to online formats. For instance, through website programming, organizations may now choose to allow or prohibit submission of cover letters.
(compared to traditional systems, where organizations had no control over whether applicants included such a letter in the same envelope as their resumes). Prohibiting cover letter submissions may benefit the organization by increasing the efficiency of its process (i.e., recruiters do not have to wade through the additional material). However, we do not yet know whether this decision has implications for applicant reactions to the process. Below, I show how the opportunity to upload cover letters has important implications for applicants’ perceptions of the fairness of the selection process.

Cover Letters

For the purposes of this paper, a cover letter is a document that accompanies an initial application, wherein applicants can indicate their interest in a position and highlight or interpret their qualifications. Cover letters appear to serve four main purposes. First, they allow applicants to show how they are a match for the position and why they are interested. Next, cover letters may be used to respond in advance to any potential concerns that the organization may have about the applicant (e.g., gaps in employment history, intentions to move into a position that is different from the applicant’s previous employment). Finally, applicants may use cover letters to provide any unique constraints that might affect their employment (e.g., salary requirements, intended start date). Despite the prevalence of cover letters, no study has examined the effects of cover letters on applicant reactions – either in the online or traditional realms. Below, I show how the literature on organizational justice can be used to explain why such an effect should exist.

Organizational Justice Perceptions

Perceptions of fair treatment in the workplace have been related to a host of important organizational outcomes. For instance, the extent to which applicants perceive the hiring process to be fair is related to applicant attraction, intent to pursue the job and accept a job offer, and intent to recommend the organization to other potential applicants (Bauer, Truxillo, & Paronto, 1998; Chapman, Uggerslev, Carroll, Piasentin, & Jones, 2005; Ryan & Ployhart, 2000). Therefore, it is important to understand what organizations can do to influence these perceptions. Organizational justice theorists have articulated four distinct dimensions of justice perceptions (e.g., Colquitt, Conlon, Wesson, Porter, & Ng, 2001). Of these, procedural justice (i.e., perceptions that a selection process is fair) is the most relevant to cover letters (although I will also examine Interpersonal and Informational Justice perceptions).

Support for the effects of cover letters can be found in Gilliland’s (1993) framework of applicant reactions, which has served as the basis for numerous
subsequent studies (Ryan & Ployhart, 2000). One of Gilliland’s selection procedure characteristics, Opportunity to Perform (OTP), refers primarily to the ability of applicants to demonstrate their qualifications for the position. Several studies have linked OTP to perceptions of procedural fairness and similar reactions, both within a selection context (Hausknecht, Day, & Thomas, 2004; Schleicher, Vankataramani, Morgeson, & Campion, 2006; Steiner & Gilliland, 1996) as well as in settings such as performance appraisal (Cawley, Keeping, & Levy, 1998). Furthermore, Schleicher et al. found that OTP perceptions varied across selection devices, indicating the importance of discovering what aspects of a selection system are perceived to have greater OTP.

Schleicher et al. (2006) further delineated different aspects of the OTP construct. One of these, the “opportunity to interact directly with the evaluators as opposed to indirectly through test questions” (p. 565), matches the function of cover letters, as they allow applicants to state their qualifications for the position directly to the organization. Schleicher et al. argued that another aspect of OTP (voice, or the ability to influence the process used, cf. Thibaut & Walker, 1975) would be less relevant to most selection settings because organizations typically do not allow applicants to dictate the hiring methods. However, cover letters may be an exception. Applicants who use cover letters to clarify their qualifications and address perceived problems with their resumes may believe that they can influence other aspects of the selection process (e.g., the information contained in the cover letter may alter an evaluator’s assessment of the information in the resume, or may lead an interviewer to ask different questions). Therefore, cover letters may increase perceptions of procedural justice through increased perceptions of voice.

Above, I showed how the opportunity to submit cover letters should be positively related to procedural justice perceptions. However, it is also important to articulate what is not expected to relate to this opportunity. That is, while cover letters should influence perceptions of the process, they should not change perceptions of the other three dimensions of justice. First, during a selection process (which is the focus of this study) the outcome of the application is not known, so distributive justice perceptions are not relevant. Second, perceptions of informational justice should not be related to the opportunity to upload cover letters, because this dimension of fairness involves communication from the organization to the applicant. Finally, as interpersonal justice perceptions primarily involve the way in which the organization treats the individual (e.g., the dignity and respect shown to applicants), the opportunity to provide cover letters should not influence this perception. It is worth noting that Gilliland (1993) did include two-way-communication (which may incorporate cover letter information) as part of the Interpersonal Treatment factor in his model. However, more recent theories and measures of justice (e.g., Colquitt, 2001; Colquitt et al., 2001) have used a narrower definition of interpersonal justice and included an
applicant’s ability to provide information to the organization within the construct of procedural justice.

In summary, the extant literature suggests that the opportunity to include cover letters with an initial application can have an important influence on applicant reactions. Specifically, I hypothesize that it will have a positive relationship with perceptions of procedural justice, but not informational or interpersonal justice.

_Hypothesis 1. The opportunity to upload cover letters will be positively related to perceptions of procedural justice, but not informational or interpersonal justice._

**Method**

**Participants**

Participants were 1,949 individuals who applied for a wide range of positions to the North American operation of a multinational manufacturing organization between June 2005 and June 2008. Based on the participants who reported demographic information, the sample was 71% male and had an average age of 38.76 years. Furthermore, the sample was 79% White, 11% Black, 5% Asian American, 2% Hispanic, and 1% Native American.

**Procedure**

All applicants to this organization applied through the organization’s web-based application system. During their initial application, they completed several questions regarding basic qualifications and background information (e.g., level of education), and uploaded their resumes. Immediately following the completion of their initial applications, applicants received a computer-generated email on behalf of the researcher, inviting them to visit a separate website to complete a survey regarding their reactions to the process (participants were asked to complete the survey before hearing whether they had passed the first stage of the process in order to provide more accurate reactions to this stage). The email explained that participation was voluntary, and that the researcher was not employed by the organization and would not provide the organization with any information regarding their participation in the survey.

During the first two years of the data collection, applicants were unable to upload cover letters along with their resumes. Based in part on open-ended responses provided by early participants, the organization decided to alter their web-based process to give applicants the opportunity to upload cover letters in June 2007 (applicants were not required to do so, but the option was made
The organization made no other changes to its selection process at this point.

Measures

All three measures of justice were adapted from Colquitt’s (2001) measures. Procedural justice perceptions were measured using five items (e.g., “I thought the procedure in the most recent selection stage was fair”), interpersonal justice perceptions with two items (e.g., “My most recent contact with [this organization] could be described as professional and courteous”), and informational justice with five items (e.g., “[The organization’s representatives] have explained the procedures thoroughly”).

Analytical Strategy and Levels of Measurement and Analysis

I analyzed the data with a time series design. In a basic time series design, responses are observed over a period of time in order to establish a stable baseline (i.e., the dependent variable is stable over time). Once a stable baseline is established, an intervention (e.g., the opportunity to upload cover letters) is introduced, and responses are again observed over time to see whether the intervention interfered with the stable pattern established beforehand (thus establishing the John Stuart Mill’s covariation and temporal precedence conditions of causality (as outlined by Cook & Campbell, 1979)). To establish the third condition of causal inference, elimination of confounding variables, I did several things. First, I calculated a stable baseline over a period of about two years, minimizing the possibility that procedural fairness perceptions were apt to fluctuate over time. Second, I verified with the organization that no other procedural changes were implemented at the same time, minimizing the influence of third variables. Finally, I measured two other distinct but related variables (interpersonal and informational justice perceptions) in addition to the dependent variable. If the intervention produces a change only in the hypothesized variable (and not related variables), it further strengthens the claim of causality by reducing the chance that a third variable covaried with the intervention (because such a variable would need to have produced an effect only in procedural, and not overall fairness, perceptions).

In this study, I followed the effects of a single organization (i.e., the effect of the cover letter intervention should result in an organization-level change in perceptions). However, the fairness measures were collected at the individual level, necessitating aggregation. Given that Tabachnick and Fidell (2007) recommend approximately 50 observations to comprise the baseline, I created datapoints by averaging the responses of all individuals within a 2-week period.
Thus, each data point in the analysis constitutes the average fairness perception of the applicants who responded to the survey within a two-week window.

**Results**

**Descriptive Statistics and Justification for Aggregation**

Descriptive statistics for both the individual and the aggregate levels, including means, standard deviations, intercorrelations, and reliabilities, are included in Table 1. The reliabilities for the justice variables were all above .90.

In order to justify aggregating individual scores within a given half month, I computed a number of agreement statistics (see Table 2). While the median $r_{wg}$ values were high enough to justify aggregation, the variables’ ICC values were low. However, ICC statistics compare variance between groups to variance within groups, and high values require there to be relatively large between group variance. As discussed elsewhere, mean scores for these variables across the time period of the study were stable. Therefore, the variance between half months should be roughly equivalent to the variance within a half month, even if there were good agreement within a half month. Therefore, it is not appropriate to rely on the ICC values as indicators of agreement. Instead, the $r_{wg}$ value is preferred.

**Hypothesis Tests**

Because error terms for the data for each half-months may not be independent (e.g., variations organizational personnel or policies may influence responses from half-months that are proximal to each other), the data were analyzed using a time-series analysis known as an auto-regressive, integrated, moving average (ARIMA) model. For each of the dependent variables, the specific ARIMA analysis proceeded in two stages. In the first, various parameters of the ARIMA model are established through establishing a flat (stationary) baseline, using only those observations prior to the cover letter intervention. In the second stage, the cover letter data are added to the model in order to assess the degree to which the new data fit the previously established pattern.

The first step in an ARIMA analysis is determining whether there is a trend in the data (i.e., using the data from the weeks before the cover letter intervention). A visual inspection of average procedural justice impressions by half-month showed no discernable trend in either direction. Furthermore, regressions of average procedural justice onto time showed no evidence for a significant linear, quadratic, or cubic relationship. Therefore, I concluded that the data were stationary with respect to time. In other words, prior to the cover letter intervention there was neither an upward nor a downward trend in procedural justice perceptions.
Table 1
Means, Standard Deviations, Intercorrelations, and Internal Consistency Reliabilities for Continuous Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Procedural Justice</td>
<td>3.44</td>
<td>.95</td>
<td>(.90)</td>
<td>.38**</td>
<td>.60**</td>
<td>.19</td>
</tr>
<tr>
<td>2. Interpersonal Justice</td>
<td>3.85</td>
<td>.94</td>
<td>.50**</td>
<td>(.94)</td>
<td>.46**</td>
<td>-.12</td>
</tr>
<tr>
<td>3. Informational Justice</td>
<td>3.62</td>
<td>.93</td>
<td>.61**</td>
<td>.64**</td>
<td>(.90)</td>
<td>.12</td>
</tr>
<tr>
<td>4. Age</td>
<td>38.76</td>
<td>11.53</td>
<td>-.08**</td>
<td>-.11**</td>
<td>-.04</td>
<td>--</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aggregate Level Mean</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregate Level SD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01

Notes. Internal consistency reliabilities for the individual-level data are provided in the diagonal of the matrix in parentheses when appropriate. Values below the diagonal represent individual-level statistics, while values above the diagonal pertain to the aggregated data.
Table 2
Agreement Statistics for Aggregate Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Median $r_{wg}$</th>
<th>Variance of $r_{wg}$</th>
<th>ICC(1)</th>
<th>ICC(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedural Justice</td>
<td>.77</td>
<td>.02</td>
<td>.01</td>
<td>.20</td>
</tr>
<tr>
<td>Interpersonal Justice</td>
<td>.73</td>
<td>.03</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td>Informational Justice</td>
<td>.79</td>
<td>.04</td>
<td>.02</td>
<td>.31</td>
</tr>
</tbody>
</table>

Next, I ran a (0,0,0) ARIMA model, specifying no linear trend, and no autoregressive or moving average components. Results indicated that this model fit the data well. There were no significant autocorrelation or partial autocorrelations that would suggest an unmodeled autoregressive or moving average function, and none of the autocorrelation checks for white noise were significant. Furthermore, the residuals from this analysis were normally distributed and contained no significant autocorrelations (i.e., average procedural justice ratings did not change over time, and ratings for a given half month did not depend on the ratings of previous half months; $RMS=.04$, $R^2 = .004$).

Finally, I ran another model that added the cases following the cover letter intervention, coding for its introduction in the model. First, I modeled an abrupt (i.e., not gradual) change in average procedural fairness impressions. This model showed an increase in average procedural justice perceptions after the cover letter intervention, $R^2 = .206$, $\Delta R^2 = .205$, $\omega = .214$, $t = 4.43$, $p < .01$. That is, average procedural justice perceptions increased by .21 points following the cover letter intervention. Because this model assumed that the change was abrupt (i.e., average values jumped instantly at the time of the intervention), I also tested a model that allowed the improvement to be gradual. Results from this model indicated that the improvement in average procedural fairness perceptions was gradual, $R^2 = .231$, $\delta = .759$, $t = 3.42$, $p = .001$, $\Delta R^2 = .025$. In summary, the best fitting model indicated that, after about two years of steady average procedural justice perceptions, there was a gradual increase in procedural justice perceptions beginning at the time the cover letter intervention was implemented (see Figure 1). As shown in the Figure, the gradualness of the change appears to be captured in the first couple of measurements following the intervention, after which average procedural justice perceptions remained stable, but at a level higher than the baseline.

I ran similar analyses for interpersonal and informational justice. Both sets of data showed evidence of stationary trends when analyzed during the two years prior to the intervention. However, in contrast to the results for procedural justice,
Figure 1. Average fairness perceptions (procedural, interpersonal, and informational, respectively) over time. Each point represents the average fairness perception for a two-week interval. The vertical line in each graph represents the point when the opportunity to upload cover letters was implemented.
there was no significant change in average fairness perception values for these constructs following the introduction of the cover letter intervention (see Figure 1).

Discussion

On the whole, the results of this study supported the hypothesis. After two years of stability, applicants’ average perceptions of procedural fairness increased at the same time that the organization introduced the opportunity to upload cover letters. As such, these results show that applicants do view the opportunity to upload cover letters as a part of a fair hiring procedure.

Furthermore, by showing that simultaneous changes in interpersonal and informational fairness did not occur, the study reduced the possibility of a third variable confounding the effect. That is, while it is possible that a factor other than the cover letter intervention could have caused the change in perceptions, it would have to be a change that occurred at the same time, and that had effects specific to procedural justice perceptions.

The effect of cover letter uploading on procedural justice perceptions extends our knowledge of justice theory. First, this study adds detail to the justice literature by providing a specific example of a fairness-related selection process characteristic (cover letters) that has not previously been established. Second, it echoes other studies on the effect of OTP. Most of the research on OTP has considered it to be a characteristic of a particular selection device, but the present study shows that the opportunity to provide input within a selection process may also include factors external to any specific assessment device. However, although OTP was used as theoretical justification to hypothesize a relationship between cover letters and procedural fairness perceptions, I was not able to measure it in this study given the serendipitous nature of the opportunity. Future research will need to establish empirically whether OTP is the explanatory mechanism for this effect.

One anomalous finding precludes a verdict of ‘full support’ for the hypotheses. It was originally assumed that the effect of the cover letter intervention on procedural justice perceptions would be abrupt, but instead this effect took a couple of time periods to fully occur. However, given the nature of the data collection, it is possible that the gradualness of the change is a methodological artifact. While applicants were emailed an invitation to participate immediately after submitting a resume, and while they were asked to respond to the survey before they received any further communication from the organization, some applicants may not have responded immediately to the survey. Therefore, it is possible that some of the participants placed into the first few time periods after the intervention may have actually applied prior to the introduction of the
intervention, thus making the change in procedural fairness perceptions appear to be gradual. Future research should examine this possibility by classifying participants based on when the actually applied to the organization (which was not possible in the present study).

Practical Implications

The most substantial practical implication is straightforward: Organizations wishing to improve perceptions of their online selection process should allow applicants to upload cover letters along with their other application materials. In terms of programming requirements, such a change should be possible for a minimal cost.

However, while the technical aspect of the cover letter intervention is not costly, complexities arise when deciding how to use the new information provided by applicants. Organizations should also consider financial and other consequences involved in reading the cover letters and incorporating the information they contain (which may require a validation study). An additional concern involves applicant reactions later in the process. If an organization that allows cover letters is perceived by applicants as ignoring that information, it could ultimately result in lower fairness perceptions. Therefore, organizations using cover letters should ensure not only that they use the information appropriately, but that applicants are aware of this fact.

The above factors as well as other logistical considerations may prevent some organizations from allowing the uploading of cover letters. In these cases, it may be still be possible to buffer the negative effects of not allowing cover letters. The literature on explanations for selection procedures (e.g., Horvath, Ryan, & Stierwalt, 2000; Shaw, Wild, & Colquitt, 2003) showed that providing proper explanations for why a procedure was used (or in this case, not used) may reduce the negative effects of the organization’s decision. Therefore, organizations that do not allow the uploading of cover letters should carefully construct an explanation for their decision and clearly communicate it to applicants.

Limitations

As with any study, there are a number of limitations to this research. First, as this was not a controlled experiment, there may be concerns about the causal relationships between the cover letter intervention and perceptions of procedural fairness. As explained earlier, a time-series design can allow for causal conclusions by establishing Mill’s prerequisite conditions. The two-year baseline period showed that procedural fairness perceptions were stable, and that the increase in procedural fairness perceptions occurred only after the cover letter
intervention. This helps to establish the requirements of both temporal precedence as well as covariation. The third requirement (elimination of third variables) is more difficult to establish. While the organization claims that the only procedural change implemented during this period was the cover letter intervention, it is possible that other changes occurred at the same time. Such changes need not be limited to the organization’s procedures, but could include other events (such as news about the organization, changes in the unemployment rate, etc.). Table 1 shows that the implementation of the cover letter intervention covaried with age, suggesting that changes in the applicant pool may account for this effect. However, analyses run with age partialled out of procedural justice perceptions showed roughly the same effects as were reported in the Results section. Therefore, the change in average applicant age is not a viable third variable. While this study was unable to measure all possible such variables, given the two-year length of time that procedural justice perceptions were stable (i.e., unaffected by other external events), a coincident factor seems unlikely.

However, future research should replicate this result using other designs in order to improve our understanding of the causal nature of this effect. While a field experiment would be possible and would have external validity, one would encounter ethical concerns (i.e., one would have to create a condition that this study’s results show are related to less favorable perceptions of procedural fairness). Therefore, the most appropriate next step would be a laboratory experiment (especially if current job applicants are used). Such an approach would allow for random assignment to cover letter condition, and could also begin to study potential moderators of cover letters’ effects.

One final limitation involves the fact that this study involved only one organization, raising questions of external validity. Although applicants applied for a wide range of job types, many aspects of the selection process were held constant throughout the study (e.g., the specific web-based application system, a 4-year degree requirement for most jobs). It is possible that cover letters are seen as more fair or necessary for the specific types of jobs this organization typically hires for, compared to other jobs. Furthermore, the effects of cover letters may be stronger or weaker when combined with other selection processes.

**Directions for Future Research**

In addition to the recommendations made above, there are a number of other important directions for future research. First, it is important to consider conditions under which this relationship may not hold. From the perspective of the individual, cover letters may not be seen as fair by all applicants. Rynes and Connerley (1993) identified the perception that the organization will be able to accurately interpret the results of a selection device as one of the drivers of
applicant reactions. Individual and organizational-level differences in this perception may influence the extent to which cover letters are seen as fair. The context in which cover letter interventions are implemented may also alter their effects. For instance, cover letters may not be as important for jobs in which they are not typically used, or for jobs where one’s resume is less likely to need interpretation (see Crant & Bateman’s (1990) research on factors leading individuals to be more favorable of drug testing, or Martin and Nagao’s (1989) finding that the type of job moderated relationships between type of test and applicant reactions). Additionally, their effect may be reduced if other aspects of the process (e.g., unstructured interviews) allow applicants to convey some of the same information.

Research on the effects of cover letters should also extend into other phases of the selection process (i.e., beyond the initial application stage studied here). It is possible that the effect of cover letters may be temporary, and would vanish once applicants have more opportunities to interact with the organization (e.g., through an interview). Bauer, Maertz, Dolen, and Campion (1998), for instance, found that opportunity to perform was no longer related to testing fairness perceptions after the outcome was controlled for. However, this early experience may send a signal to the applicant about the fairness of the entire process, and Fairness Heuristic Theory (e.g., Lind, 2001) would suggest that this early impression may persist. Furthermore, if organizational recruiters are reading the cover letters and using that information in subsequent interviews, cover letters may indirectly affect applicants’ experiences in the interview as well.

Finally, while the effects of procedural justice perceptions have been connected to a host of important applicant outcomes (e.g., Chapman et al., 2005), the present study did not measure these outcomes so it is premature to claim that allowing cover letters is certain to result in gains on these outcomes. Future research should incorporate outcomes such as applicant attraction, intent to accept job offers, and actual job choices, in order to enhance our knowledge of cover letters and the mediating effect of procedural fairness perceptions.

**Conclusion**

Given the increasing popularity of web-based application systems, it is important to consider all of the ramifications of this relatively new technology. This study showed that it is important not to overlook traditional aspects of the process. Cover letters appear to be a salient aspect of an individual’s application experience and should be considered alongside other components of a fair selection procedure.
References


Author Information:
Michael Horvath
Department of Psychology
Cleveland State University
2121 Euclid Avenue, CB 161
Cleveland, OH 44115
m.horvath59@csuohio.edu
216-687-2574