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Fairness in E-Recruitment: Examining Procedural Justice Perceptions and Job Seekers' Intentions

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Abstract: Corporate websites are crucial in recruitment, as the prospective applicants' experiences in digital recruitment may influence their intentions. Therefore, understanding how opportunity-to-perform perceptions (OPP) integral to procedural justice experienced by potential applicants while visiting a corporate recruitment website impact their reactions towards the company can be key. This study aims to elucidate the influence of OPP on applicants' intentions to apply (ITA) via corporate websites. Specifically, it explores the indirect relationship between OPP during recruitment and ITA one month after visiting a company website, mediated by organizational attractiveness and ITA measured immediately after and one week after the website visit. This multi-wave study collected 260 cases from master's students in psychology who completed a questionnaire across waves. Hypotheses were tested using the PROCESS macro in SPSS. The findings highlighted a serial mediation pathway, wherein the indirect connection between OPP and ITA after one month was mediated through organizational attractiveness, ITA immediately after, and one week after website visits. The results highlight the importance of enhancing procedural justice corporate websites to influence applicants' perceptions and intentions positively and improve recruitment outcomes. Future research should explore the effect of long-term justice perceptions as a basis for a sustainable employee–employer relationship.

Keywords: appraisal reactions; procedural justice; recruitment; organizational attractiveness



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1. Introduction

The increasing competition for talent [1] has underscored the growing significance of human capital over the past two decades, emphasizing the need for effective and sustainable recruitment strategies [2]. Today's workforce changes jobs more frequently, leading individuals to participate in selection procedures and receive outcomes more often than ever [3]. This evolution has heightened the focus on the psychological impact of selection events on job seekers [4]. Finding, engaging, and retaining skilled employees is crucial for achieving business success and fostering long-term organizational sustainability [5]. Understanding how potential employees perceive the recruitment process, including its sustainability practices, is essential [6,7].

Furthermore, the Internet has revolutionized how organizations present information to job seekers [8], and organizations have increasingly adopted web-based recruitment methods [9], leveraging technology to streamline processes, enhance efficiency, and reduce costs [4]. The literature on the subject has shown that expectations formed before interacting with a company significantly influence applicants' subsequent behavior and beliefs [10–12]. Central to this dynamic exchange are corporate websites, pivotal channels for job-related information dissemination, and transmission of organizational cues affecting applicant perceptions and decisions [2,13].

Applicant experience is increasingly recognized as a crucial factor in research on recruitment and selection processes, necessitating more empirical research to understand

how companies can positively influence applicants' perceptions and attitudes, particularly through sustainable practices [14]. The literature has remarkably advanced in understanding applicant reactions to selection and recruiting processes [15]. Still, significant gaps remain, particularly in exploring how perceptions derived from corporate websites and their sustainability initiatives influence applicant intentions and in investigating how these dynamics unfold over time from a temporary perspective [16].

Based on this and trying to address the gaps in the literature, this study examined how applicants' perceptions of the opportunity to perform—which is the perceived chance to showcase their abilities—impact their intention to apply (henceforth referred to as ITA) for positions through corporate websites. It hypothesizes an indirect relationship, wherein procedural justice during recruitment, including sustainable and fair practices, influences the intention to apply one month (ITAM) after a website visit. This influence is presumed to be sequentially mediated by organizational attractiveness, ITA immediately after the website interaction, and ITA one week later (ITAW). We framed these relationships within theoretical frameworks such as the signaling theory and organizational justice models, which allowed us to hypothesize an indirect relationship model where procedural justice on corporate websites influences organizational attractiveness and applicant behavior [17,18].

By delving into these dynamics, this study seeks to refine recruitment practices and enhance applicant experiences, thereby optimizing organizational recruitment strategies through a lens of sustainability and fairness [17]. Understanding job seekers' criteria in deciding whether to apply for a company's position can inform practical applications to improve recruitment systems [19]. More than this, our results may suggest guidance and career counseling professionals' suggestions to be provided to job seekers to approach the job search process in a sustainability-oriented fashion.

2. Theoretical Background and Hypotheses Development

Corporate websites play a pivotal role in the recruitment process, functioning as primary channels for disseminating crucial job-related information and transmitting organizational cues that substantially impact applicant perceptions and decision-making [2,9]. In this dynamic exchange, both applicants and organizations play integral roles; applicants actively seek comprehensive insights into job benefits, conditions, requirements, and organizational policies, while organizations, in turn, endeavor to gather pertinent details from candidates, encompassing attitudes, career milestones, educational background, expectations, and motivational drivers [20]. This dynamic exchange can be understood through the lens of signaling theory [21,22]. According to the signaling theory framework, corporate website signals shape job seekers' attitudes and reactions toward an organization [6,23] and influence their intention or decision to apply for a job [24].

Recently, Folger and colleagues [14] highlighted the need for a deeper empirical examination of signaling theory in recruitment, focusing on how specific inferences drawn from digital technologies used by companies influence applicants' attitudes. In this vein, higher empirical inquiry based on signaling theory is suggested by, for instance, researchers in the scholarly field of early career transition [25]. They advocate for the importance of the signals employers provide to graduate job seekers during their initial exchanges for the effectiveness of human resource management practices and new entrants' employability development.

In concert with signaling theory, Gilliland's organizational justice model [26] provides a framework for understanding how applicants' perceptions of fairness and transparency in selection processes influence their intentions to apply for a job. This model, which has been central in explaining applicant reactions to new technologies in recruitment and selection [27–29], highlights key factors that can shape applicants' intentions to apply. This study focuses specifically on opportunity-to-perform perceptions, part of procedural justice, which is crucial for assessing fairness and an organization's respect for candidates [30].

Opportunity-to-perform (henceforth, OPP), in Gilliland's [26] organizational justice theoretical model, refers to applicants' perceptions of how well the selection or recruiting process provides a fair and adequate chance for them to showcase their job-relevant skills

and abilities [4,31,32]. In our investigation, we specifically focused on how OPP is modelled by the information available on corporate websites.

Fair processes, providing equal opportunities to perform, shape applicants' views of an organization because it signals to candidates that the organization values meritocracy and fairness in its selection process [22]. Folger and colleagues [14] found that procedural justice perceptions could be seen as mechanisms of negative signals in some specific cases (interview stage). Recruitment practices that emphasize transparency and positive candidate experiences, alongside the perception of OPP during recruitment, increase the likelihood of candidates pursuing roles within the organization and being attracted to both the job and the organization [33–35].

For example, in the e-recruiting process, opaque corporate websites lacking transparency about selection processes or job requirements can diminish applicants' OPP. Many corporate websites use standardized forms requiring applicants to input their information in limited ways, thus restricting opportunities to showcase their abilities and unique qualifications fully. This limitation can lead to a sense of unfairness, as applicants may perceive that their true potential is not being accurately evaluated [31]. Although recent studies have begun to explore the impact of corporate websites on candidate reaction research [16], the role of OPP within the environment of company websites still requires investigation.

Drawing on this knowledge, we aim to contribute to the development of the literature on these topics by advancing those perceptions about how the opportunity to perform impacts the ITA for a job. This relationship is shaped by how applicants perceive the fairness and effectiveness of the selection or recruiting process as it is portrayed on corporate websites. These websites serve as crucial marketing tools, portraying an organization's identity to attract potential candidates [16]. They communicate distinctive employer characteristics, indicating quality and appeal to applicants [6,22,36], while also offering detailed insights into job roles, corporate culture, career prospects, and more [6,36].

Drawing upon the signaling theory perspective, we also posited that the OPP-ITA relationship might be explained by organizational attractiveness (henceforth, OA). Fair treatment significantly enhances an organization's appeal; candidates who perceive fairness are more attracted to the organization compared to those treated unfairly [32]. Organizational signals, conveyed through the corporate website in our case, shape perceptions of the organization's quality and desirability as an employer [6,22,37], influencing subsequent candidate decisions, including ITA, by communicating values, reputation, and career opportunities. Positive perceptions of workplace culture and overall employment experience are key factors that shape applicants' OA, ultimately influencing the size and quality of the applicant pool [6,38,39].

Furthermore, applicants' perceptions of OA and overall employer appeal may evolve throughout the recruitment process as they access new information [39]. This evolution underscores the dynamic nature of OA and its profound impact on talent attraction [38,39]. As we have already specified, research examining the impact of OPP on OA within the frameworks of signaling theory and organizational justice remains limited. To our knowledge, only two studies have specifically addressed this topic. Krys and Konradt [32] demonstrated that fairness during recruitment significantly influences candidates' perceptions of organizational appeal, emphasizing the pivotal role of OPP in shaping aspirants' views of OA. Their research also indicated that perceptions of unfair treatment during the assessment stage could persistently diminish organizational appeal, despite subsequent positive experiences or job offers. Similarly, Köchling et al. [31] investigated the interplay between OPP, emotional responses, and AI-supported telephone/video interviews in influencing OA. Their findings underscored the mediating effects of OPP and emotional reactions on organizational appeal.

Drawing on the reviewed literature, our hypothesis posits that applicants' ITA is indirectly influenced by their OPP perceptions, mediated through the OA shaped by corporate website signals. Therefore, we did not consider the general OA of a company but rather the change in it between the first visit and after the visit to the corporate website.

This highlights the pivotal role of digital communication in shaping applicant decisions during recruitment. Thus, we propose the following hypotheses:

Hypothesis 1: *Opportunity-to-perform (OPP) perceptions influence, positively, the intention to apply (ITA) after visiting a corporate website, mediated by organizational attractiveness (OA).*

Furthermore, considering time perspectives when examining the ITA is crucial for several reasons. Firstly, it offers a deeper understanding of how perceptions of organizational justice—such as fair and sustainable practices—affect prospective employees over time [40]. This approach acknowledges that initial impressions and interactions during recruitment can evolve, influencing long-term applicant intentions and behaviors [16].

Secondly, a temporal view can capture the lasting effects of OA and the sustained impact of procedural justice on applicants' intentions. By measuring ITA at multiple time points (immediately post website visit, one week later, and one month later), researchers can better grasp the stability and changes in applicants' perceptions and decisions. This is crucial for ensuring that recruitment strategies achieve short-term effectiveness and foster long-term engagement and talent retention.

Understanding the dynamic and enduring impact of organizational justice and sustainability on applicant intentions through a temporal perspective provides valuable insights for optimizing recruitment practices. This, in turn, improves the applicant experience and supports the development of fair, sustainable, and effective recruitment strategies that contribute to long-term organizational success.

Given these considerations, employing a multi-wave research design, our objective was to ascertain whether these perceptions consistently influence ITA over time following the initial website visit. In accordance with this, we hypothesize the following:

Hypothesis 2: *OPP positively influences ITA one week later (ITAW) by OA and ITA measured immediately after the website visit.*

Hypothesis 3: *OPP positively influences ITA one month later (ITAM) by OA, which subsequently influences ITA immediately after the website visit.*

The ITA measured one week (ITAW) after the website visit then mediates the relationship between OA and ITA one month later (ITAM), demonstrating the stability of the relationships over time.

These hypotheses aim to investigate how perceptions of OPP influence OA and subsequently shape ITA at different intervals following website interaction. By establishing these causal connections, we underscore the enduring impact of these relationships over time, thereby enhancing recruitment practices and organizational outcomes.

3. Materials and Methods

We involved international master's degree students from a large Italian university in this study. Per previous agreements with their courses' professors, we recruited the participants by presenting the study (regarding goals, characteristics, and procedure) during classes. We invited them to complete a provided online questionnaire.

Participants in this study were selected through a convenience sampling method. During class sessions, the study's goals, characteristics, and procedures were explained, and students were invited to voluntarily participate by completing an online questionnaire. This approach allowed us to efficiently gather data from an accessible group, although it may limit the generalizability of the findings due to the non-random selection of participants.

The final sample was composed of 26 participants (66.3% women). The majority of the sample (58.3%) were aged between 20 and 23 years old. Moreover, the students were from Europe ($N = 13$), Asia ($N = 6$), Africa ($N = 4$), and South America ($N = 3$). The participants were subjected to a randomized sequence of visits to ten corporate websites, which led to a final set of 260 cases available to be analyzed (see Table 1).

Table 1. Descriptive statistics of demographic characteristics.

Variable	Category	Percentage
Gender	Male	29.9
	Female	66.3
	Non-binary	3.8
Age	20–23 years	58.3
	24–27 years	31.9
	28–31 years	9.8

The websites visited by the participants belonged to companies operating in various sectors to ensure a diverse representation of the Italian economy.

To ensure that the selection of companies aligned with the participants' career interests, we first collected data on preferred sectors from the participants. Based on these data, we identified industries of interest, such as automotive, energy, finance, and retail. Then, we selected the companies on the basis of the Fortune Global 500 list [41], based on revenue, and on the basis of Glassdoor [42] employee feedback that considers work environments, employee satisfaction, and employer brand perception. Lastly, we evaluated each company's online corporate website to ensure it included a careers section detailing job opportunities. Our final selection took into account both the industry and country, aligning with the preferences of the participants. The selected companies—Allianz, AXA, British Petroleum, Carrefour, ING Group, Mercedes-Benz AG, Shell, Siemens, Total, and Volkswagen—are prominent players in major European markets and sectors that were pertinent to the participants.

The study design involved data collection through a questionnaire administered before and after the participants explored the selected companies' websites. Some variables, such as OA, were assessed pre and post exploration to measure changes, while others, like organizational justice and ITA, were evaluated only after the exploration. Data were collected digitally, and the questionnaires were administered in English, as all participants were fluent.

Participants visited the organizations' websites as if they were job seekers. At the end of the exploration, they completed a second questionnaire on procedural justice perception, organizational attractiveness, and ITA on the sole basis of what they had seen on the websites. We collected data with a digitally structured anonymous questionnaire that specified the company and website they were to visit. It included questions and detailed instructions for navigating the site. To ensure anonymity during data collection, alphanumeric codes were used to link the responses collected at different times. Furthermore, to ensure anonymity, the participants were not asked for their exact age, as individual cases could potentially compromise anonymity. During this activity, the participants were exposed to each site for 5/8 min, and a researcher ensured that they followed the procedure correctly for each site. (Figure 1).

The study methods complied with the principles of the 2013 Helsinki Declaration by the World Medical Association [43] and adhered to the ethical standards of Italian psychologists. Participation in the study was entirely voluntary, with all participants providing informed consent and retaining the option to withdraw at any point. The data, used exclusively by the paper's authors for research purposes, are not publicly accessible due to ethical and privacy considerations. In the data analysis phase, we rigorously maintained participant anonymity in compliance with Italy's privacy regulations.

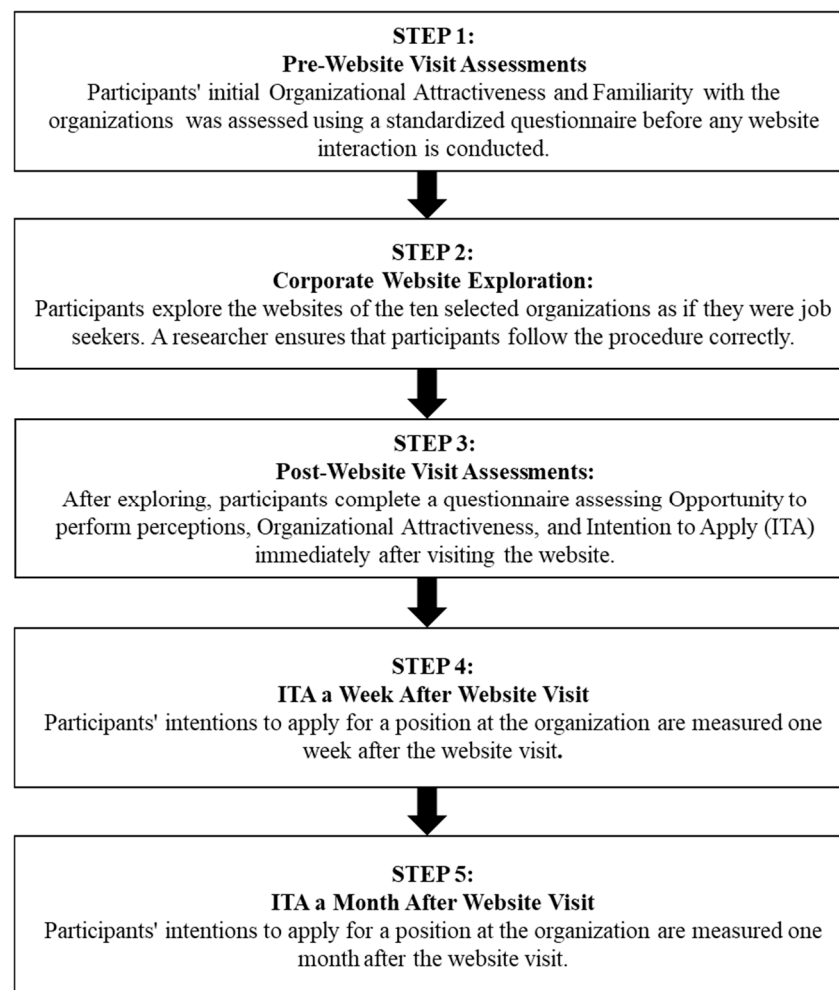


Figure 1. Research process and steps.

4. Measures

Opportunity-to-Perform Perceptions. Opportunity to perform was assessed through four items designed for this study, inspired by the conceptual approach of Bauer [44]. While Bauer et al. [44] emphasized performance opportunities in the context of specific tests, we refocused these items to reflect perceptions that emerge from reviewing a company's website during the recruitment and selection processes. This adjustment resulted in strong psychometric properties (see Table 2). The participants responded to items like: "To be given the possibility to show their talents", "Can show their best during physical selection", "To get the chance to demonstrate what they are worth", and "To get the chance to display their potential", on a scale from 1 = not at all to 7 = completely.

Organizational Attractiveness. We used the five-item General Attractiveness scale by Highhouse [45], which was slightly refocused for the purposes of our study. A representative item is "This company is attractive to me as a place for employment". This measure was administered both before and after the participants viewed the companies' websites, with differences between the two time points capturing changes in organizational attractiveness. Positive scores reflected an increase, while negative scores indicated a decrease.

Intention to Apply (ITA) for Each Wave. The ITA for a job through the organization's website was measured using three items, originally developed by [46] to assess technology use intentions, which we adjusted for this context. A sample item is, "I will consider job offers on this website". Participants responded on a 7-point Likert scale from 1 = strongly disagree to 7 = strongly agree, with the scale capturing their attitude toward using the website as a job application platform.

Table 2. Means, standard deviation, and correlation among study variables.

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. FAM	3.77	1.70	(0.93)							
2. OA_pre	4.15	1.28	0.39 **	(0.90)						
3. OPP	4.54	1.16	0.06	0.22 **	(0.91)					
4. OA_post	4.22	1.39	0.19 **	0.68 **	0.48 **	(0.91)				
5. Δ OA	0.07	1.08	−0.22 **	−0.32 **	0.35 **	0.42 **				
6. ITA	3.94	1.55	0.17 **	0.61 **	0.51 **	0.89 **	0.42 **	(0.95)		
7. ITAW	3.62	1.51	0.17 **	0.04	0.54 **	0.57 **	0.09	0.59 **	(0.96)	
8. ITAM	3.34	1.46	0.09	0.35 **	0.51 **	0.21 **	0.18 **	0.54 **	0.80 **	(0.96)

Note. Cases: 260; ** $p < 0.01$; FAM = familiarity with the organization; OA_pre = organizational attractiveness before the website visit; OA_post = organizational attractiveness after the website visit; OPP = opportunity-to-perform perceptions; Δ OA = change in organizational attractiveness, where this indicator was constructed by subtracting OA_pre from OA_post; ITA = intention to apply; ITAW = intention to apply after a week; ITAM = intention to apply after a month. Cronbach's alpha coefficients are in parentheses along the diagonal.

Control Variables. In line with findings from [47], which show that pre-existing knowledge about a company influences job seekers' perceptions, we included familiarity as a control variable. Familiarity was measured using three items, based on previous research [47–49]. For instance, the participants were asked to rate their overall knowledge of the company on a 7-point scale from 1 (very little) to 7 (a lot).

All items used in the current study are fully detailed in the Supplementary Materials for reference.

5. Bias Analyses

In our study, each participant evaluated multiple companies, with each evaluation treated as an independent entry in our dataset. This approach was chosen to acknowledge the common practice of individuals evaluating multiple organizations when seeking employment opportunities. Given that each participant's evaluations were included multiple times in our dataset, there was a potential issue of autocorrelation among the standard error terms. This autocorrelation could violate ordinary least squares (OLS) regression assumptions, potentially leading to biased standard errors and t-values [50].

To address this concern, we utilized the Durbin–Watson test, a statistical method designed to detect autocorrelation in the residuals of regression models. The test yielded a Durbin–Watson coefficient of 1.67, indicating minimal autocorrelation in our data. Additionally, we assessed all the variables' variance inflation factor (VIF), confirming that multicollinearity was not a significant issue in our regression analyses. These steps were crucial in ensuring the robustness and reliability of our statistical findings.

6. Data Analysis Strategies

We conducted both descriptive and inferential analyses to test our hypotheses. Firstly, descriptive statistics, including means, standard deviations, and correlations, were calculated for all the study variables to understand their basic properties and relationships. To test our serial mediation hypotheses, we utilized the approach developed by Hayes [51]. Specifically, we employed model 6 of the IBM SPSS package PROCESS macro to test the hypothesized serial mediation analyses. PROCESS estimates the serial indirect effects using 10,000 bootstrapped samples and provides a bootstrap outcome with a 95% bias-corrected interval.

7. Results

This study achieved robust psychometric indexes (Cronbach's alpha > 0.90). Table 2 presents the mean values, standard deviations, alphas, and correlations among the study variables. The analysis of correlations among the study variables suggested support for the relationships hypothesized. Firstly, OPP showed a positive correlation with Δ OA. Furthermore, Δ OA demonstrated significant correlations with immediate ITA and ITA

measured at one week (ITAW) and one month (ITAM) post visit. The observed correlations suggested that, indeed, a relationship existed between the variables under study.

Table 3 provides the descriptive statistics (mean and standard deviation) for the main variables analyzed for each company. The table highlights the opportunity to perform, intention to apply, organizational attractiveness, and familiarity perceived by the participants after visiting the respective career websites

Table 3. Descriptive statistics for the main variables analyzed for each company.

Company	OPP		ITAW		ITAM		ΔOA		FAM	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
British Petroleum	4.77	1.12	3.64	1.53	3.19	1.67	0.17	1.21	3.22	1.65
Shell	4.77	1.17	3.51	1.27	2.76	1.22	0.17	0.97	3.72	1.81
Daimler	4.50	1.22	3.46	1.09	3.55	1.03	0.25	1.13	2.85	1.64
Total	4.38	1.04	3.15	1.77	2.92	1.65	0.16	0.91	3.79	1.78
Axa	4.61	0.95	3.88	1.50	3.81	1.47	−0.19	0.96	4.13	1.62
Allianz	4.50	1.09	3.69	1.41	3.16	1.20	0.15	1.24	3.75	1.57
Volkswagen	4.54	1.25	3.98	1.78	3.57	1.65	−0.10	0.85	4.88	1.68
ING Group	4.43	1.25	3.69	1.56	3.46	1.39	0.05	1.35	3.44	1.45
Siemens	4.11	1.17	3.41	1.38	3.25	1.49	−0.06	1.14	2.47	1.62
Carrefour	4.79	1.28	3.89	1.72	3.87	1.59	0.01	1.00	4.73	1.57

Cases: 260; OPP = opportunity-to-perform perceptions; ΔOA = change in organizational attractiveness, where the indicator was constructed by subtracting OA_pre from OA_post; ITA = intention to apply; ITAW = intention to apply after a week; ITAM = intention to apply after a month; FAM = familiarity with the organization.

Furthermore, the serial mediation analysis conducted with PROCESS on SPSS confirmed these findings. Specifically, OPP significantly influenced the applicants' immediate ITA through the corporate website, mediated by the change in organizational attitude (ΔOA) (estimate = 0.12, SE = 0.02, $p < 0.001$, 95% CI [0.08, 0.17]). This result supports Hypothesis 1, highlighting the critical role of perceived opportunity to perform in shaping initial application intentions via the corporate website.

Moreover, opportunity-to-perform perceptions (OPP) demonstrated a sequential mediation effect on the applicants' ITAW through the corporate website. This effect was mediated through ITA (estimate = 0.09, SE = 0.02, $p < 0.001$, 95% CI [0.05, 0.12]). Thus, Hypothesis 2 is substantiated, indicating that perceptions of opportunity to perform not only influence immediate application decisions but also impact applicants' intentions over a short-term period via the corporate website. Expanding on these results, opportunity-to-perform perceptions (OPP) continued to predict the applicants' ITAM. This process involved sequential mediation through ITA and ITAW (estimate = 0.06, SE = 0.01, $p < 0.001$, 95% CI [0.04, 0.09]). These findings robustly support Hypothesis 3, indicating a stable relationship where initial perceptions of opportunity to perform contribute to sustained application intentions over an extended timeframe via the corporate website.

These results are summarized in Table 4, which provides details of the indirect effects and their confidence intervals (CI).

Table 4. Indirect effects.

								95% Confidence Interval				
								Estimate	SE	p	LL	UL
H1:	OPP	→	ΔOA	→	ITA			0.12	0.02	0.00	0.08	0.17
H2:	OPP	→	ΔOA	→	ITA	→	ITAW	0.09	0.02	0.00	0.05	0.12
H3:	OPP	→	ΔOA	→	ITA	→	ITAW → ITAM	0.06	0.01	0.00	0.04	0.09

Note. Cases: 260; SE = standard error; LL = lower limit of the 95% confidence interval (1000 samples); UL = upper limit of the 95% confidence interval (1000 samples); OPP = opportunity-to-perform perceptions; ΔOA = change in organizational attitude; ITA = intention to apply; ITAW = intention to apply after a week; ITAM = intention to apply after a month.

8. Discussion

This study aimed to further explore how perceptions of organizational justice, specifically focusing on OPP, impact potential applicants' ITA via organizational attractiveness within a temporal perspective. Our study was based on signaling theory [22] and its application in the personnel selection process [14], which, in e-recruitment, emphasizes corporate websites as crucial channels for organizations to communicate their values and attract potential applicants [2,9], and Gilliland's organizational justice model [26], which emphasizes fairness perceptions during recruitment in shaping applicant intentions [27,28]. Using a multi-wave design, our research tracked perceptions before and after candidates visited corporate websites, offering insights into the evolution of initial impressions and their impact on real-world decision-making processes.

Confirming Hypothesis 1, our study underscored that OPP wielded significant influence on the candidates' immediate ITA following their initial visit to the corporate websites. OA mediated this influence. Furthermore, our findings supported Hypotheses 2 and 3, demonstrating that these perceptions shaped ITA immediately post visit and maintained substantial effects over subsequent periods of one week (ITAW) and one month (ITAM). This highlighted the pivotal role of OPP as a foundational dimension of organizational justice, influencing candidate decisions even before any direct interaction with the organization occurred. These insights underscored the strategic importance of effectively managing perceptions related to OPP to optimize recruitment outcomes and organizational appeal in digital recruitment contexts. Also, these findings significantly advanced our understanding of how corporate website signals impact OA and the subsequent ITA over time.

Among the strengths of our study, we highlight the contribution to enriching the literature [14] by providing a detailed examination of procedural justice, a serial mediation model within a temporal dimension, and focused insights on optimizing corporate websites for recruitment purposes. Additionally, our research highlights the dynamic change in organizational attractiveness after visiting corporate websites. Our findings demonstrated how these perceptions could shape applicant attitudes even before direct interaction with the organization occurred, underscoring the importance of strategic management of corporate signals. Also, we involved a sample of international students and evaluated websites from different international corporate realities. This added a valuable cross-cultural perspective, providing additional insights into the generalizability of our findings, despite different cultural norms and values that may affect how applicants perceive fairness, organizational attractiveness, and sustainability effort. We shall discuss the implications of our study findings and their value further below.

9. Theoretical Implications

This study contributes to theoretical advancements by extending signaling theory [22] to demonstrate how corporate websites function as critical signaling mechanisms for communicating organizational values and informing attractiveness. Our findings highlighted the pivotal role of OPP within procedural justice theory [26] in shaping applicant perceptions. While previous studies [14] have considered the relationship between procedural justice and organizational attractiveness, they lacked a temporal perspective. Our study extends Gilliland's model [26] by demonstrating that perceptions of justice can be formed even before direct contact with organizations occurs.

Furthermore, the perception of OPP is a variable that has received limited attention in the candidate reaction literature. To date, only Köchling et al. [31] and Krys and Konradt [32] have examined this variable in contexts unrelated to corporate websites. Despite the limited attention given to OPP in the candidate reaction literature, this study underscores its importance and calls for more focused research in this area, particularly in the context of corporate websites. By addressing these gaps, organizations can better leverage their digital platforms to attract and retain high-quality candidates, ultimately enhancing recruitment effectiveness and fostering sustained engagement.

On the other hand, organizational justice significantly enhances organizational sustainability by fostering employee commitment, satisfaction, and retention, which are crucial for long-term success. Research shows that fair treatment in distributive, procedural, and interactional justice boosts employee motivation and performance, leading to improved knowledge sharing and innovative behaviors [52,53]. These positive employee outcomes are instrumental in creating a sustainable organizational culture that drives long-term performance and resilience [54].

In this regard, our study, which involved master's degree students and soon-to-be job seekers, contributes to the rising signaling-framework-based theoretical perspectives on the development and long-term evolution of a sustainability-oriented employee–employer relationship. Particularly, the Initial Employability Development model advanced by [25] also emphasizes the critical role of signals exchanged between applicants and employers in initiating and fostering relationships crucial for shaping career trajectories and enhancing employability in the long term. Our findings align with Akkermans et al.'s theoretical propositions and offer empirical evidence about the importance of the initial contact phase with an organization. This phase establishes a foundational relationship pivotal for subsequent career development and employability enhancement in later career stages.

10. Practical Implications

These findings have significant practical implications for HR practices, emphasizing the importance of optimizing corporate websites to enhance recruitment effectiveness. Perceptions of fairness in e-recruitment are influenced by the adequacy, relevance, and clarity of information provided about the selection process, job requirements, and duties [55,56].

This study highlights the critical role of corporate websites in shaping job seekers' perceptions of their opportunity to perform during the selection process. By providing clear job descriptions, transparent selection procedures, and resources to aid preparation, organizations can enhance the applicant experience and attract highly qualified candidates. The findings underscore the importance of digital communication strategies in recruitment and suggest that emphasizing fairness and transparency can significantly improve organizational attractiveness.

By creating well-designed websites that present clear information and offer meaningful opportunities for candidates to demonstrate their capabilities, organizations can strengthen perceptions of equity and attract high-quality candidates. Additionally, promoting sustainability within recruitment practices is crucial. Ensuring the initial phase of contact with candidates is engaging and supportive allows them to feel valued and reduces frustration. Emphasizing the "opportunity to perform" can foster a sense of involvement and growth potential among applicants, aligning with sustainability goals and enhancing the candidate experience. This approach helps organizations attract and retain top talent, contributing to a positive and sustainable work culture. Focusing on the psychological dimensions of recruitment and ensuring a fair and supportive process can improve candidate satisfaction and engagement, leading to better long-term relationships between graduates and employers and enhancing the overall effectiveness of HR practices.

11. Limitations and Recommendations for Future Research

It is important to note the limitations of this study. First, the data collection relied on self-report measures, which may introduce bias and affect the reliability of responses. Additionally, the sample was limited to humanities students, potentially restricting our findings' generalizability to broader populations or different academic disciplines. Also, even with the heterogeneous composition of the sample in terms of nationality, future studies may further explore cultural differences in recruitment strategies and applicant reactions. Furthermore, the participants were directed to explore corporate websites as part of the research, which may have influenced their perceptions compared to voluntary exploration.

Another limitation is this study's examination of various corporate websites rather than focusing on a single specific site. These websites varied in terms of structure, services

or products offered, and brand recognition. While this diversity may enhance the generalizability of our results across different corporate contexts, it also introduces variability that could impact the consistency of the findings.

Future research should address these limitations by employing experimental designs incorporating control variables to isolate effects better and enhance methodological rigor. For instance, providing specific instructions to control and experimental groups could clarify the impact of different variables on perceptions of organizational justice and attractiveness. Additionally, exploring longitudinal effects beyond immediate perceptions to include diverse candidate populations and extended time intervals would offer deeper insights into the evolution of candidate behaviors and intentions over time.

Furthermore, there is a need for future studies to delve deeper into the dynamic and multifaceted nature of recruitment through digital platforms. Investigating how initial perceptions develop and their enduring effects on candidate behavior could provide valuable insights for refining recruitment strategies. By optimizing these strategies, organizations can strive for sustainability in their recruitment processes, benefiting both themselves and potential candidates.

12. Conclusions

In conclusion, this study offers valuable insights into the impact of organizational procedural justice (OPP) on potential applicants' initial and sustained intentions to apply (ITA), with organizational attractiveness (OA) serving as a mediator, within a time-sensitive context. Grounded in signaling theory and Gilliland's organizational justice model, we explored how perceptions evolve through the use of corporate websites as recruitment tools. Our findings confirmed that OPP significantly affects ITA both immediately after visiting a corporate website and over time, underscoring the importance of managing fairness perceptions in e-recruitment processes.

By highlighting the role of procedural justice in candidate decision-making, this study provides important contributions to recruitment strategies, suggesting that organizations should strategically curate their online presence to maintain long-term attractiveness. This research enhances the existing literature by demonstrating that initial perceptions formed through corporate websites have a lasting influence on applicant behavior, offering practical guidance for optimizing digital recruitment methods.

Future research could delve into additional individual factors, such as perceived employability or experiences with selection procedures, to better understand their nuanced effects on applicant engagement across different recruitment scenarios.

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