

LINKING EMPLOYER ATTRACTIVENESS TO HR AND ORGANIZATIONAL PERFORMANCE

**INSIGHTS FROM AN EXTENSIVE SWEDISH STUDY BASED ON
PROSPECTIVE EMPLOYEES**

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Linking Employer Attractiveness to HR and Organizational Performance: Insights from an Extensive Swedish Study based on Prospective Employees

Abstract:

The ability to attract talents has become increasingly important in the modern organization. However, the specific relationship between employer attractiveness, HR and organizational performance metrics has yet to be fully explored in the existing literature. This study aims to explore this gap by utilizing a proprietary dataset containing the preferred workplace of 9,763 Swedish students. Through OLS regressions we find a significant positive relationship between employer attractiveness and several HR and organizational performance metrics, with the impact varying depending on the academic backgrounds and skillsets of the individuals who prefer the organization. This study makes three noteworthy contributions to the field. Firstly, this is, to our knowledge, the first extensive study that uses the opinions of prospect employees as a measure of employer attractiveness to investigate its relationship to HR and organizational performance. Secondly, it identifies significant differences in the correlation between employer attractiveness and HR and organizational performance based on the academic backgrounds of survey respondents. Finally, the study addresses existing literature's call for more evidence on the relationship between recruitment and organizational performance using larger datasets.

Keywords:

Employer Attractiveness; Intangibles; Organizational Performance; HR Performance; Human Capital

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1. Introduction

The term “War for talent” is a phrase coined by McKinsey to describe the intense competition among organizations to hire the best employees (Michaels et al., 2001). Attracting and retaining top talent has become an essential priority for organizations in today’s competitive business environment. To become an employer of choice, organizations are making significant investments in employer branding as well as in building competitive benefit packages. In 2023, the global market for Human Resources (“HR”) and recruitment services alone is projected to be worth \$761bn in 2023 (IBISWorld, 2023). The question is: what do organizations gain in exchange for their substantial investments?

Prior research suggests that obtaining a favorable reputation as an employer among prospective employees results in a larger and higher-quality candidate pool (Cable & Turban, 2003; Connerley et al., 2003). Consequently, employer attractiveness is linked to one of the four Human Resource Management (“HRM”) facets, namely recruitment and selection (Fisher et al., 2006). Having access to a sizeable and high-quality candidate pool enables the employer to choose and select among the most well-equipped and qualified candidates, which, in turn, has been linked to higher productivity, engagement and stronger cultural fit (Pervin, 1968; Kristof-Brown et al., 2005; Kocakulah et al., 2016). The aforementioned factors collectively act as mediators for organizational performance (Kim & Ployhart, 2014).

The financial value creation stemming from attracting and retaining top talent is theoretically grounded in the resource-based view, which suggests that an organization’s resources and capabilities are key determinants for its competitive advantage. The human resources within an organization is a critical source of sustainable competitive advantage as they can provide difficult-to-replicate skills, knowledge, and expertise (Boxall, 1996). Consequently, an organization’s ability to attract and retain top talent should demonstrate itself in the organizational performance of the organization. Moreover, the human factor in a company is generally far more difficult for competitors to duplicate than the plant, equipment or even products that a company produces which makes it particularly interesting to assess (Flanagan & Deshpande, 1996). Prior research has attempted to quantify the value of attracting high-quality employees, and Becker et al. (2001) estimate that high-performing employees have 40 to 80 percent greater impact on firm performance than an average employee.

Numerous studies have investigated the relationship between best employer rankings, such as Fortune's "100 Best Companies to Work For", and organizational performance (e.g., Edmans, 2011; Fulmer et al., 2003; Goenner, 2008; Faleye & Trahan, 2006). However, to our knowledge, there has been no extensive study exploring the relationships between employer attractiveness, based on the perception of prospective employees, HR, and organizational performance. The most adjacent research area which focuses on the impact of staffing and recruitment practices on organizational performance suggests that a correlation exists (Gamage, 2014; Ekwoaba et al., 2015). However, the research is characterized by limited sample sizes which is why researchers have called for innovative ways to provide more evidence by leveraging larger datasets (Gamage, 2014). Hence, this thesis intends to bridge the identified research gaps by addressing the following research questions: *(1) What is the relationship between employer attractiveness and HR performance? (2) What is the relationship between employer attractiveness and organizational performance?* As well as the previously unexplored question *(3) Does the academic background of survey respondents affect the correlation between employer attractiveness, HR performance metrics, and organizational performance metrics?*

To examine the stated research questions, we utilize a proprietary dataset provided by the ranking of Universum with 42,079 votes, split across 315 unique organizations. Contrary to much of the research on best employer studies which typically extract HR-related data from a specific region and compare it with financial data of the parent company, we extract financial data from the Swedish reporting entity for multinational corporations ("MNCs"). This approach is consistent with prior research indicating that the corporate parent only can explain 1 to 4 percent of the variance in organizational performance (Rumelt, 1991; McGahan & Porter, 1997). Consequently, we argue that examining the relationship between HR-related survey data for a specific region and share price development or organizational performance for the corporate parent makes little sense for MNCs. To test our hypothesis, we formulate an OLS regression model to investigate the correlation between employer attractiveness and HR performance metrics as well as organizational performance metrics. We find a significant positive correlation between employer attractiveness and the percentage of employees that have attended a top-ranked Swedish university, CEO and board salary in relation to revenue, as well as EBIT margin. Furthermore, we find a significant negative correlation between employer attractiveness and net intangible assets in relation to revenue. The findings are robust when controlling for an alternative measure of size. Furthermore, a lagged dependent variable

regression was performed, and three out of four dependent variables retained statistical significance. However, the statistical significance for the EBIT margin variable shifted marginally from a p-value of 0.089 based on the employer attractiveness data released during 2021 to 0.107 for the employer attractiveness data released in 2020. We also find that the correlation between employer attractiveness, HR performance metrics and organizational performance metrics vary depending on the academic background of the survey respondents.

Regarding the limitations of the thesis, similar to other studies investigating the relationship between employer attractiveness, HR and organizational performance this thesis is susceptible to reverse causality. It is undeniable that prospective job seekers may have a greater propensity to be attracted to well-performing organizations, in fact, it is highly probable (Chhinzer & Ghatehorde, 2009). To mitigate the effects of reverse causality we incorporate controls, such as profit and growth. However, as it is difficult to fully account for, we are satisfied to acknowledge the existence of a relationship. Nevertheless, we believe that this novel approach to study the relationship between employer attractiveness, HR and organizational performance paves the way for predictive longitudinal studies in countries with larger sample sizes. Furthermore, the relevance specific HR or organizational performance metrics differs across organizations. The goal of the thesis is not to explore all potential relationships between employer attractiveness, HR and organizational performance. Instead, the thesis concentrates on HR and organizational metrics for which either a logical relationship may exist or that has been examined in prior research. Finally, the construction of the proxy for employer attractiveness includes assumptions aligned with previous research suggesting that it is the ability to select candidates that drives the performance (Gamage, 2014; Ekwoaba et al., 2015).

The thesis is organized into 7 sections. Firstly, in Section 2, a literature review is conducted to examine prior research on the influence of employer attractiveness on HR and organizational performance. Subsequently, in Section 3, we present our hypotheses. Section 4 delineates the research design and variables adopted for the statistical model. Section 5 provides a summary of the sample and sampling process. In Section 6, the empirical results and robustness tests along with our analysis are detailed. Finally, Section 7 concludes our findings and suggests potential avenues for further research.

2. Previous Literature

This study has a financial focus and seeks to provide additional insight into the outcomes, rather than the causes, of employer attractiveness. The drivers of employer attractiveness have been widely researched within Psychology-, Human Resource Management- and Marketing literature and will not be covered in this paper (for literature reviews see, e.g., Edwards, 2010; Lievens & Slaughter, 2016). We recommend the readers who are interested in gaining a more profound understanding of the underlying mechanisms behind employer attractiveness to direct their attention to the EmpAt scale developed by Berthon et al. (2005). In this section we instead shed light on the gap in the existing literature examining the HR-performance relationship. Second, we review prior research assessing staffing and recruitment practices' influence on HR performance metrics. Third, we assess prior research on the relationship between employer attractiveness and organizational performance.

2.1. Why focus on employer attractiveness?

Existing research that explores the overlap between HR and organizational performance primarily focus on the perceptions of current employees towards the organization. These studies have employed metrics such as employee satisfaction as a basis for their analysis. A significant body of research has used the data provided by Fortune's ranking "100 best companies to work for". The Fortune ranking is the largest ongoing workforce study in America and is based on responses from 870,000 employees. The ranking employs a questionnaire-based approach in which employees answer 60 statements about the culture within the organization including levels of trust, pride, camaraderie, and respect (Fortune, 2023a). A substantial body of research literature have explored the relationship between the Fortune's ranking and share price development as well as financial performance (e.g., Edmans, 2011; Edmans et al., 2014; Fulmer et al., 2003; Goenner, 2008; Faleye & Trahan, 2006; Boustanifar & Kang, 2022; Ballou et al., 2003). Rankings with a similar approach such as Glassdoor's "Best Places To Work" and the now ceased publication Working Mother's "100 Best Companies for Working Mothers" have also been a focal point for exploring the relationship between HR and financial or organizational performance (e.g., Filbeck & Preece, 2003; Chauvin & Guthrie, 1994; Filbeck & Zhao, 2023). The research literature which utilizes rankings based on the perception of existing employees offers a relevant avenue for exploring the financial implications of a positive affective climate. Nonetheless, the literature does not

fully capture the effects of prospective employees and recruitment efficacy (Tumasjan et al., 2020). Satisfied employees do not necessarily translate to a high-quality and sizeable pool of job applicants. For example, an employer can offer benefits that only cater to a narrow, niched group of people that already works at the organization. Alternatively, an employer can offer benefits that appeal to a large audience, but the benefits are not widely known outside the organization. While several studies point out a positive relationship between employee satisfaction and recruitment efficacy due to word-of mouth and signaling effects, the precise correlation remains ambiguous (e.g., Van Hoyer et al., 2016; Nikolaou, 2014). The asymmetry between employee satisfaction and willingness to work for an organization becomes evident when comparing *Fortune's* “100 Best Companies to Work for” with *Universum's* national US ranking “Most Attractive Employers”. *Universum's* ranking relies on survey responses from 49,197 American university students, who are asked which firm they would like to work for. Notably, none of the of the top ten companies in *Fortune's* 2022 ranking feature in *Universum's* top ten ranking for 2022 for students specializing in business, computer science, engineering, humanities/Liberal Arts/Education or Natural Sciences students respectively (Fortune, 2023a; Universum, 2022).

To investigate the impact firm attractiveness or prestige has on the financial performance the existing research literature has predominantly employed the “World's most admired companies” ranking. This ranking, also conducted by Fortune, gather survey responses from 3,760 executives, directors, and security analysts. The sample compromise of Fortune 1000, Global 500 companies and other major companies based outside the United States. The ranking evaluates companies based on nine criteria, including ability to attract and retain talented people, quality of management as well as social responsibility to the community and the environment (Fortune, 2023b). Researchers have utilized this ranking to investigate the relationship between firm prestige and cost of capital, CEO remuneration as well as financial performance (e.g., Cao et al., 2015; Anderson & Smith, 2006; Antunovich et al., 2005; Statman & Anginer, 2010; Focke et al., 2017). However, the inclusion criteria which incorporates financial characteristics such as financial soundness and long-term investment value and the presence of security analysts in the panel makes it prone to financial halo effects. Brown and Perry (1994) was able to construct a halo index, consisting of sales growth and company size among other things, that explained 55 percent (adj. R²) of the variance in the Fortune ranking. Furthermore, Fombrun and Shanley (1990) also highlighted the financial orientation of the ranking, by showing that financial soundness accounted for most of the variance. Given the

rankings strong emphasis on historical financial performance it is questionable whether it adequately captures the impact of HRM. The lack of comprehensive datasets that accurately portray organization's attractiveness from an applicant perspective has resulted in gap in the research literature examining the interplay between HRM and organizational performance. In this regard, we argue that the dataset made available by Universum provides a unique opportunity to uncover deeper insights into the financial outcomes stemming from prospective employees. Furthermore, data collected from external participants mitigates the risk of manipulations by the HR departments, hence enhancing the credibility of the results. In Table 1, we provide an overview of research literature linking HRM rankings to organizational or financial performance.

Table 1: A summary of research literature linking HRM rankings to organizational or financial performance

Perspective	External perception		Internal perception
	Potential applicants	Executives and analysts	Existing employees
Data availability	Low	High	High
Relevant publicly available data (examples)	Most Attractive Employers by <i>Universum</i>	Worlds' Most Admired Companies by <i>Fortune</i> Britain's Most Admired Companies by <i>Echo</i> <i>Research and Coventry University</i> Britain's Most Admired Companies by <i>Management Today</i>	100 Best Companies to Work for by <i>Fortune</i> World's Best Employers by <i>Forbes</i> The Best Places to Work in IT by <i>Computerworld</i> Best Places to Work by <i>Glassdoor</i> 100 Best Companies for Working Mothers by <i>Working mothers</i> (ceased)
General criteria	Single variable – where do you want to work?	Ability to attract and retain talent Quality of management Social responsibility Innovativeness Product/service Quality Financial soundness Long-term value Effectiveness	Pay and benefits Opportunities Job security Pride in work Flexibility
Study participants	Potential applicants	Senior executives Outside directors Financial analysts	Employees HR professionals
Study objects	Voluntary participation	Public firms Size threshold	Voluntary participation
Notable financial research	-	Cao et al. (2015) Focke et al. (2017) Statman & Anginer (2010) Brown and Perry (1994)	Edmans (2011) Fulmer et. Al. (2003) Filbeck & Preece (2003) Ballou et al. (2003) Goenner (2008)

Note: The framework is built upon Joo and Mclean (2006).

Both students and existing professionals will arguably have an impact of the quantity and quality of an organization's applicant pool and Universum provides two separate rankings to distinguish between the groups. In certain aspects, the student population have unique characteristics, such as limited work experience and lack of familiarity with job search activities, which may make the less representative for the overall population (Rynes et al., 1980; Oswick et al., 1994). Therefore, utilizing students as research objects can compromise the generalizability of the findings as well as its validity. However, we chose to focus on university student's preference due to two reasons. Firstly, we wanted to explore the preferences among a population that fulfills the requirements to be considered for a job opportunity. Potential applicants that are unable to meet the basic qualifications of having a degree should not have a material impact on the organization. Secondly, since the university students either have graduated during the year or are about to graduate, they are highly likely to apply for jobs. The high application probability makes them especially relevant to focus on. Moreover, Calder et al. (1981) argue that students are adequate research subjects when multivariate relationships are examined rather than univariate differences among the population. In this case, students are actual subjects and not used as an indicator for a different group.

2.2. Why might employer attractiveness impact HR performance?

Organizations that enjoy a position as a preferred employer are believed to accrue a multitude of benefits, spanning from a more sizeable and high-quality applicant pool, higher employee engagement and stronger cultural fit. These advantages have been found to translate into higher employee productivity and performance, lower absenteeism, and fortified bonds with clients (Hunter, 1986; Roth et al., 1996; Kocakulah et al., 2016; Markos & Sridevi, 2010). The performance of the employees is in turn directly related to organizational productivity (Gondal & Husain, 2013).

Connerley et al. (2003) argues that attraction, which is getting individuals to apply for a position at the organization, is perhaps the most important of the three recruitment outcomes. The other two, namely status maintenance and job acceptance refer to ensuring that applicants remain in the selection process until the employer is able to extend an offer and facilitate the acceptance of an offer. While organizations make an ambitious endeavor to induce their top candidates to accept extended offers it cannot compensate for a lack of attraction. If high-

quality candidates chose not to apply, the organization will be deprived of the opportunity to consider them. Cable and Turban (2003) found that reputable organizations had a significantly larger applicant pool consisting of higher-quality applicants. They also suggested that there was evidence for that reputable firms could select higher-quality applicants. Connerley et al. (2003) investigated this further and found massive discrepancies in firms' applicant pools even when comparing role-to-role.

The advantages of having a sizeable high-quality applicant pool encompass that the organization can choose among the most intelligent, the most qualified or the culturally best-fitted candidates. Intelligent employees are able to learn more quickly which results in enhanced job performance (Hunter, 1986). Hunter and Hunter (1984) found that cognitive ability could predict job performance with a mean validity of 0.53. Newer research has shown that intelligence predictive power of employee performance is not only restricted to advanced jobs, but also applicable for a variety of jobs (Ree & Earles, 1992). However, not all research supports the IQ-performance relationship, Gondal and Husain (2013) argue that IQ alone is not a sufficient indicator of job performance. Instead, they argue that emotional intelligence is a superior predictor. Moreover, applicants with higher grade point averages have also been shown to perform better at their jobs and receive better reviews from superiors (Roth et al., 1996). An additional benefit is that an employer with a sizeable applicant pool can select candidates that adhere to the values and culture of the organization. Person-organization fit has been extensively studied by researchers and refers to the level of compatibility between an individual and an organization (Memon et al., 2014). A high-level of congruence between employer and employee has been linked to employee engagement, performance, and satisfaction (Pervin, 1968; Kristof-Brown et al., 2005). The level of engagement among employees has in turn, if low, been linked to absenteeism which is a major disruptor to productivity (Kocakulah et al., 2016). Strong engagement levels among employees have instead been shown to increase customer satisfaction and loyalty (Markos & Sridevi, 2010).

The research linking desired employers to employee retention has shown more ambiguous results. The possibility to select candidates with a strong person-organizational fit is believed to have a positive impact on employee retention (Sims & Kroeck, 1994). Relatedly, O'Reilly et al. (1991) indicated that person-organizational fit can significantly predict turnover intentions and Posner et al. (1985) showed that managers with a closer fit with their respective organization were more confident that they would remain at the company. Joseph et al. (2014)

further argued that employees who perceived their organization as attractive were also more likely to remain at the organization. On the contrary, Tan and Rider (2017) argue that candidates see difficult-to-get jobs as stepping stones and favor them due to the perceived future external mobility opportunities. This means that organizations are more appealing, especially to candidates in their early career stage, if the organization could lead to career advancements when they decide to change job (Bidwell & Briscoe, 2010). As an example, successful start-ups have a strong attraction to those who seek to become future entrepreneurs (Burton et al., 2002).

2.3. Why might employer attractiveness impact organizational performance?

A sizeable and high-quality applicant pool is a necessity for selective recruitment and staffing, which has been found to have a significant impact on business performance. Tepstra and Rozell (1993) revealed that effective and selective staffing practices translated into higher profits and profit growth for labor-intense industries, such as in the service and financial industries. In more capital-intense industries such as manufacturing and wholesale, there was no significant impact on profits. The authors argued that in those industries, HR are only one of many crucial inputs in the operation, along with for instance equipment and technology. Kim and Ployhart (2014) conducted a study based on 12-year longitudinal data and found that selective staffing had a positive impact on profit growth mediated by higher employee productivity. Furthermore, several studies have tried to assign a dollar value to recruiting and selecting high-performing employees. Huselid (1995) found that a one standard deviation increase in high-performance work practices resulted in \$27,044 increase in sales as well as \$3,814 increase in profits per employee. Becker et al. (2001) further suggested that employees who are considered to be high-performer had a 40 to 80 percent greater impact on firm performance than the average employee. In addition, there are multiple studies suggesting that managers are willing to accept lower remuneration due to the prestige of working for a sought-after company (Focke et al., 2017; Persons, 2014).

The level of employee engagement has been linked to multiple financial performance drivers such as productivity and profitability. Furthermore, less engaged employees are also more likely to have higher absenteeism (Markos & Sridevi, 2010). Absenteeism is an HR metric with a rather evident impact on organizational costs and profitability. However, the costs of absenteeism are not limited to direct expenses. Organizations also need to hire expensive last-

minute temporary staff, which adds a staffing margin, and pay more overtime (Gale, 2003). The uncertainty of the magnitude of the indirect costs that are incurred has led to wide-spanning estimates of the actual cost of absenteeism. Gale (2003) suggests that companies spend 15 percent of their payroll on absenteeism, while Kocakulah et al. (2016) argues that the number exceeds 15 percent of profits and elaborates with: “[this] accounting doesn’t include lost productivity and missed deadlines, the costs for replacement staff and overtime pay for the replaced workers, and lowered morale costs”.

Employee retention has also been a topic of interest for researchers exploring the relationship between HR metrics and financial performance. Previous research has suggested a negative correlation between turnover and organizational performance, Hancock et al. (2013) gives three theoretical explanations for this. Firstly, the cost-based perspective suggests that employee turnover affects organizational performance due to the direct and indirect costs associated with managing employee exists. Secondly, the human capital perspective suggests that employee attrition impacts organizational performance due to the loss of valuable skills and knowledge acquired through experience and training. Thirdly, the social capital perspective proposes that employee turnover effects organizational performance because of the loss of hard-to-replace social relationships that the employee has accumulated. Congruent with the human capital perspective, high employee turnover has been shown to negatively impact organizational productivity and organizational memory (Boles et al., 1995; Argote, 2012). Consistent with the social capital perspective, Broschak (2004) showed that managerial turnover significantly increased advertising agencies’ risk of losing clients. Relatedly, Bitzer (2006) estimates that an involuntary employee departure incurs a loss of approximately 25 to 33 percent of the employee’s annual salary. Furthermore, high employee turnover has also been linked to higher failure rates and financial constraints (Phillips & Connell, 2003). However, there are also research that points out benefits associated with employee turnover. Alexander et. al. (1994) suggest that to the extent that new employees have less experience, vacation and sick leave pay, turnover may reduce compensation rates and other organizational costs. In addition, attrition could serve a useful purpose by removing low-performing employees, or those who do not suit the organizational culture, and replacing them with high-performing new hires (Abelson & Baysinger, 1984). Lastly, in line with the social capital perspective, new hires can bring pre-existing relationships that could be nurtured into financial gains (Seleim & Khalil, 2007).

That there is a relationship between HR metrics and organizational performance seems evident based on previous research, but the direction of causation is ambiguous. Chhinzer and Ghatehorde (2009) argue that there is yet no confirmation of causality. This is a key obstacle when analyzing HR metrics and organizational performance. Becker et al. (2001) also address the difficulty of isolating specific HR management practices' impact on firm performance. Their view is that the best way of addressing this is to develop an understanding of the logic behind the causal model, and the basic principles of measurement, to better grasp the magnitude of the problem.

3. Hypotheses

As discussed in the previous section, the success of an organization's HR is largely determined by its ability to recruit and select qualified candidates. Desirable organizations are more likely to draw on a more sizeable and higher-quality pool of candidates as opposed to non-desirable organizations (Cable & Turban, 2003). As demonstrated by Connerley et al. (2003), there are notable variations in candidate pool quality among organizations, even for comparable occupations. The privileged companies could therefore choose among the most intelligent or the candidates with the strongest academic achievements, which both has been linked to employee productivity (Hunter & Hunter, 1984; Roth et al., 1996). Moreover, desired organizations can choose among a large set of candidates in terms of their alignment with the organizations' values and beliefs. The person-organizational congruence has in turn been linked to higher employee engagement and retention (Pervin, 1968; Kristof-Brown et al., 2005).

In contrast, while being a desired employer may attract a large number of applicants, they must not necessarily be the most suitable or qualified applicants. Even if the candidate pool is full of eligible candidates, organizations may have biases or systematic errors in their selection process that result in less favorable hiring outcomes. In addition, the perceived attractiveness of an organization may vary based on individuals' cultural heritage or demographics which could result in loss of perspectives and diversity of thoughts even if an organization appeals to a large homogenous group. Moreover, even if an organization can attract qualified candidates, there is no assurance that they will remain at the company (Tan & Rider, 2017). Therefore, organizations must not only attract and nurture talents, but also provide a positive work environment that encourages employee retention. In conclusion, although diverging views, our first hypothesis is stated as follows:

Hypothesis 1 ("H1"): *Employer attractiveness will have a positive correlation with HR performance metrics*

Furthermore, selective staffing has been shown to be related to a vast number of organizational benefits such as increased profits (e.g., Terpstra & Rozell, 1993; Kim & Ployhart, 2014; Huselid, 1995). Previous research has for example found that the spill-over effects from selective staffing, such as employee engagement, significantly reduce the wage bill through less absenteeism (e.g., Gale, 2003; Kocakulah et al., 2016). However, while some degree of

employer attractiveness is a prerequisite for selective staffing, the specific relationship between employer attractiveness on organizational performance remains uncertain. However, based on the previous research on selective staffing our second hypothesis is:

Hypothesis 2 (“H2”): *Employer attractiveness will have a positive correlation with organizational performance metrics*

Prior research has identified a heterogeneous relationship between employer attractiveness, HR performance and organizational performance. For instance, Terpstra and Rozell (1993) found that the use of effective staffing practices accounted for a significant proportion of the variance in labor-intensive industries such as the service industry, but less so for capital-intensive industries such as manufacturing. Moreover, Edmans et al. (2014) propose that the impact of employee satisfaction on financial performance depends on the labor flexibility in the region. However, to our knowledge, no prior research has examined whether the relationship between employer attractiveness, HR and organizational performance varies depending on the skillset possessed by those who prefer to work for the organization. We believe that the scarcity of certain skills and academic backgrounds will influence these relationships. For instance, prior research has shown that not all job positions are equally easy to fill, the median duration for open job advertisements suggest that STEM roles take significantly more time to fill than the average job (Frick, 2014).

Hypothesis 3 (“H3”): *The correlation between employer attractiveness and HR performance metrics, as well as with organizational performance metrics, will vary depending on the academic background of survey respondents*

4. Research Design

In the subsequent section, we describe our research design. First, we present the statistical model employed. Second, we delineate all variables used and their respective relevance to the model. Variables are categorized into dependent variables, the independent variable, and control variables. In Appendix B, we summarize all variables together with each individual description, construction, and data source.

4.1. OLS regression models

In order to determine the most suitable approach for our study, we evaluated both a cross-sectional study and a longitudinal analysis. After careful consideration, we concluded that the latter would be unfeasible, given the substantial impact it would have on our sample size. A significant number of organizations have emerged in the employer attractiveness ranking in recent years which made a longitudinal study impractical. Therefore, we opted for a cross-sectional study design as it enabled us to preserve more data. However, we acknowledge that a longitudinal analysis may have provided additional insights.

The first two hypotheses (H1 and H2), the correlation between employer attractiveness, HR performance metrics and organizational performance metrics has been empirically examined through the estimation of ordinary least squares (“OLS”). For the OLS regression, we have applied the following model for each individual dependent variable:

$$y_i = \beta_0 + \beta_1 VOT_FTE_i + \beta_{2-10} CONTROLS_i + INDUSTRY\ FE + Ownership\ FE + \varepsilon_i$$

Where i is the observed organization, VOT_FTE is the independent variable as well as the indicator of employer attractiveness, $CONTROLS$ represents the control variables, $INDUSTRY\ FE$ is the factor variable for industry and $OWNERSHIP\ FE$ is the factor variable for ownership (i.e., public, private or state-owned).

To assess the third hypothesis (H3) we have used the same construct of the OLS regression model. However, we conducted three individual OLS regressions based on the educational backgrounds of the participants and compared the results.

4.2. Variables

4.2.1. Dependent variables

The dependent variable set constitutes of eight metrics that aim to provide an indication of either the HR performance or the organizational performance. In some cases, the distinction between the HR performance and organizational performance is vague, such as for revenue per FTE. For the HR performance metrics, we have chosen to investigate: (1) Median employee tenure (MED_TEN), (2) CEO tenure (CEO_TEN), (3) Percentage of employees that have attended a top-ranked Swedish university (PRE_SCH), and (4) CEO and board compensation in relation to revenue (CEO _SAL). These metrics have been widely studied in research to determine how successful a company is at managing human resources (e.g., Fitz-Enz, 2010). However, the relevance of different HR performance metrics varies between organizations, there is no accepted universal conception of a defined set of metrics that measure HR success (Ulrich, 1998). We do not aim to provide an exhaustive list of HR performance metrics, instead we focus on four of the eight key HR areas that are quantifiable which are recruitment, turnover, salary levels and worker's compensation. The data on the remaining four, such as temporary help and overtime, is highly restricted (Sorensen, 1995).

The key organizational performance indicators we have chosen to investigate are: (5) Cost of employees in relation to revenue (COS_EMP), (6) Operating profit in relation to revenue (EBIT_MAR), (7) Revenue per full-time employee (REV _FTE), and (8) Net intangible assets in relation to revenue (INT_AST). For the financial metrics, data has been collected for the year that follows the employer ranking. The first three key organizational performance indicators (i.e., 5-7) have been used by a significant body of research within the CSR and HRM fields to evaluate financial performance (e.g., Ponikvar et al., 2009). The eighth variable (8), net intangible assets as percentage of sales, may not be a common key performance indicator. However, we wanted to explore whether employer attractiveness correlates with the acquisition intensity of an organization. Intangible assets can be internally capitalized, such as through internal R&D, however a significant part is usually externally capitalized through acquisitions (Austin, 2007). Since HR are linked to innovation, we wanted to explore whether they are less likely to engage in M&A as a venue for growth (Bos-Nehles et al., 2017). Therefore, we have intangible assets as an indicator for the degree of sales that has been paid for. In similarity to the HR performance metrics, we do not aim to provide a fully comprehensive explanation to

the organizational performance. Instead, we focus on variables where we believe there is a reasonable causal relationship as supported by previous research.

4.2.2. Independent variable

The independent variable (VOT_FTE), a construct defined as the quotient of the respondents willing to work for the organization and the current number of employees in the entity, is set to provide an indication of the employer attractiveness of an organization. As discussed in the previous research section, there are numerous ways of estimating employer attractiveness. We have focused on the job-seekers perception of prospective employers consistent with, for instance, Saini and Jawahar (2019), and Babčanová et al. (2010). Moreover, the data has been refined by dividing the votes individual organizations have received by the number of employees they have in Sweden. Previous literature emphasizes that a given organization's ability to be selective in the recruitment process that drives HR performance metrics (e.g., Millmore, 2003; Tepstra & Rozell, 1992; Kim & Ployhart, 2014). Large organizations generally have more positions to fill which reduces their ability to be selective (Hausdorf & Duncan, 2004). Therefore, we believe it is appropriate to adjust for organizational size to provide a more accurate indicator of how many available prospective employees an organization has for each current employee.

4.2.3. Control variables

To develop unbiased estimation models, we have carefully reviewed previous literature for variables that may have a relationship with either organizational performance or HR performance metrics, as well as variables that might influence employer attractiveness. The controls that have been applied for each dependent variable include organizational size, profits, capital intensity, organizational growth, organizational reach, gender diversity and level of localization.

To control for size effects, we have used both revenue (REVENUE) as well as total employees globally (FTE). We have included both as coefficients and goodness of fit may vary significantly depending on which firm size measure is used. The reason for why we have refrained from using total assets, which is believed to be a more relevant measure of, for instance, executive compensations, is due to the strong correlation with our capital intensity variables (Dang et al., 2018). Profit, measured as operating profit (EBIT), was primarily used as a control to mitigate the possibility of reverse causality. A significant body of research has

argued that it may be that only highly profitable firms have the resources to invest in effective HR practices and recruitment (Terpstra & Rozell, 1993; Sels et al., 2006).

Capital intensity, measured as both net tangible assets (TAN_AST) and net working capital (NWC), was included as a control due to its potential impact on productivity. An organization with significant assets could leverage them to achieve high productivity per employee. There are researchers who argue that it should be seen to have a moderating role in the HRM-organizational performance link (Richard & Johnson, 2001). Organizational growth, measured as one-year employee growth (FTE_GRO), is believed to have implications for the organizational set-up. High-growth firms generally have a leaner organization with less administrators and tend to be more selective in recruiting (Siegel et al., 1993). Furthermore, if an organization has many new employees in the firm it is going to affect the median tenure in the organization. In this way, we control for that median tenure is simply not a result of the degree of growth in the firm.

Global employer recognition, measured as the followers on LinkedIn divided by total employees (FOL_FTE), is associated with organizational awareness and popularity (Bonsón & Bednárová, 2013). This control is used to mitigate the possibility that potential jobseekers simply voted on the organizations they are most familiar with. Gender diversity (GENDER), defined as percentage of the employees identifying as male, has been argued to drive certain organizational performance metrics such as sales and profits (Herring, 2009). It is also possible that the gender mix could impact HR performance metrics such as employee retention (Kyndt et al. 2009). Level of localization (SWE_FTE), measured as the percentage of full-time employees located in Sweden, has also been suggested to impact HR practices. The HRM model in subsidiaries of multi-national organizations is believed to be influenced by country of origin (Pudelko & Harzing, 2007).

4.2.4. Factor variables

To control for the potential impact of industry (INDUSTRY) and ownership (OWNERSHIP) we introduce factor variables. Prior research suggests that Industry (INDUSTRY) may have a significant impact on organizational performance metrics such as profitability (McGahan & Porter, 1997). To ensure a comprehensive segmentation of local business units we have utilized the Global Industry Classification Standard (GICS), which has been shown to be superior to other classification schemes, such as NAICS and SIC, in explaining organizational

performance (Bhojraj et al., 2003). Moreover, in light of the inclusion of for-profit state-owned organizations in our sample, it is imperative that we control for ownership as a potential confounding variable. This is because state-owned organizations may have alternative motives beyond the maximization of organizational performance (Yu, 2013). The ownership of organizations has been classified into three categories: publicly listed organizations, privately-owned organizations, and state-owned organizations.

5. Data Sample

This study utilizes a proprietary data set provided by Universum, the global employer branding leader, and is supplemented with data from annual reports and LinkedIn. The dataset obtained by Universum covers the years 2015 to 2022 and features results of engineering, IT and business student's preferred employers, respectively. The data is categorized according to the educational orientation of each respective student and includes the percentage of students within one of the three educational orientations that voted for a certain employer. Each student is allowed to vote for up to five preferred employers, which is why the number of votes exceeds the number of surveyed individuals. For the results relating to the year 2021, which are based on the votes collected during the year 2020 and subsequently announced in March 2021, data was gathered on 315 unique organizations. This data was collected on 9,763 students and encompass a total of 42,079 votes. Among the 9,763 participants, 49 percent are female and the percentage of female participants is lowest for MSc Engineering (43 percent) and highest for Business/Economics (57 percent). The dataset provided to us is significantly more enriched than the publicly available information on Universums' website. On their website, they only present the top 100 organizations for each educational field, in total 200 unique organizations, as an ordinal variable in the form of ranking position.

The financial data, gender diversity, number of employees, employee growth as well as CEO and board remuneration has been collected from the 2021 annual reports of the Swedish entity, for example "Microsoft Aktiebolag". The remaining HR-related data has been collected from LinkedIn. The sample was further refined through exclusions and selections, as presented in table 2. Firstly, observations for governmental institutions operating as non-profits, such as municipalities and aid agencies, were eliminated, narrowing down the sample to 38,217 votes and 278 unique organizations. Secondly, Multinational Corporations ("MNCs") without a Swedish reporting unit were removed, reducing the sample to 36,010 votes and 261 unique organizations. The non-eligible MNCs primarily include financial institutions that operate in Sweden through a filial branch structure and are exempt from financial reporting. Finally, observations that lack data for miscellaneous financial control or dependent variables, such as CEO and board remuneration were eliminated. This resulted in a sample consisting of 35,118 votes and 250 unique organizations.

Table 2. Sample selection process

Filtering criteria	Number of Votes	Number of organizations	Individual observations
(1) Raw data for 2021	42,079	315	9,763
(2) Less governmental institutions operating as non-profits	38,217	278	-
(3) Less MNCs without a Swedish reporting entity	36,010	261	-
(4) Less firms with missing financial data from ARs	35,118	250	-

Note: The table presents the various steps in the sample selection process and its respective implications on the sample size. The number of observations represents the remaining sample size following each respective filtering criteria. AR is an abbreviation for annual report.

6. Empirical Results

In the subsequent section, the empirical results of the study are presented and discussed. Firstly, the descriptive statistics for the sample are presented. Secondly, we examine the linear correlation among variables through the Pearson correlation coefficient. Thirdly, the OLS regressions for the consolidated results are put forth and assessed. Fourthly, we analyze the results of the OLS regressions based on the academic background of survey respondents. Furthermore, a new control variable, average salary, is introduced to investigate whether the potential positive correlation between employer attractiveness and HR and organizational performance is offset by higher salaries. Next, an analysis is performed to explore whether the ranking itself drives the results. Finally, we present the robustness checks and discuss their implications on the validity of the study.

6.1. Descriptive statistics

Table 3 presents the descriptive statistics for all the variables employed in the consolidated OLS regressions. The sample consists of 250 unique organizations with varying degrees of maturity. To mitigate the influence of outliers, especially for organizations in the process of scaling and displaying negative EBIT margins of several hundred percent, we followed the procedure of Edmans (2011) and winsorized our continuous variables. However, to minimize loss of information and variability, we adopted a more lenient winsorization approach and capped our extreme values at the 1st and 99th percentile, compared to the 5th and 95th percentile employed by Edmans (2011).

Table 3. Descriptive Statistics

Variable	N	Mean	Std. Dev	Min	Q1	Q2	Q3	Max
Group A: Dependent Variables								
MED_TEN	250	4.952	1.827	1.200	3.800	4.950	6.100	9.800
CEO_TEN	250	5.129	4.975	0.250	1.750	3.750	6.250	25.250
PRE_SCH	250	6.634	6.421	0.000	2.344	4.772	9.000	46.250
CEO_SAL	250	0.396	0.708	0.010	0.067	0.145	0.370	4.305
COS_EMP	250	29.826	22.380	1.557	12.407	21.906	43.849	99.601
EBIT_MAR	250	7.941	26.060	-115.962	2.576	7.256	14.974	76.480
REV_FTE	250	6.884	9.944	0.620	2.095	3.845	6.670	61.491
INT_AST	250	16.749	41.811	0.000	0.047	1.737	11.631	356.357
Group B: Independent Variables								
VOT_FTE	250	0.265	0.735	0.001	0.026	0.053	0.185	5.815
REVENUE	250	17.534	37.142	0.083	1.356	4.070	13.617	232.314
GLO_FTE	250	0.030	0.070	0.000	0.001	0.003	0.018	0.427
EBIT	250	2.847	8.062	-5.494	0.048	0.232	1.167	49.360
TAN_AST	250	6.965	19.477	0.000	0.022	0.167	2.244	115.020
NWC	250	0.437	4.367	-13.743	-0.332	-0.012	0.324	24.885
SWE_FTE	250	0.459	0.383	0.001	0.051	0.439	0.880	1.000
FTE_GRO	250	0.027	0.138	-0.343	-0.031	0.013	0.073	0.607
GENDER	250	0.632	0.158	0.170	0.520	0.670	0.750	0.900
FOL_FTE	250	32.006	29.293	5.527	14.444	21.486	36.430	164.356

Note: The table presents the summarized descriptive statistics for the variables used in the consolidated regression. Firstly, it provides the number of observations (N), mean (Mean), standard deviation (Std. Dev), Minimum (Min), 25th percentile (Q1), 50th percentile (Q2), 75th percentile (Q3) and maximum (Max) numbers for each variable. The dependent variables are split up between HR performance metrics (MED_TEN, CEO_TEN, PRE_SCH, and CEO_SAL) and organizational performance metrics (COS_EMP, EBIT_MAR, REV_FTE, and INT_AST). The independent variables consist of employer attractiveness (VOT_FTE) with the rest being control variables. All continuous variables are winsorized at the 1st and 99th percentile.

6.2. Correlation analysis

Table 4 presents the Pearson correlation coefficients for the variables used in the consolidated regression model. Group A exhibits the correlation between the independent variable employer attractiveness and the dependent HR and organizational performance variables. The highest observed absolute Pearson correlation coefficient between the dependent variables is -0.49, between revenue per full-time employee (REV_FTE) and cost of employees in relation to revenue (COS_EMP). The result is expected since revenue per full-time employee (REV_FTE) essentially is the inverse construct of cost of employees in relation to sales (COS_EMP) with the exception that the variable does not account for salary levels. The highest correlation coefficient observed between the independent variable and dependent variables is 0.42, for CEO and board compensation in relation to revenue (CEO_SAL).

In Group B, the correlations among the independent variable and control variables are presented. The highest observed absolute Pearson correlation coefficients in Group B are 0.69, between operating profit (EBIT) and revenue (REVENUE), as well as 0.42 for net tangible assets (TAN_AST) and revenue (REVENUE). This also aligns with expectations since the mentioned variables can be expected to correlate with the size of the organization. The highest observed correlation coefficient between the independent and control variables is 0.35, for the number of global full-time employees (GLO_FTE), which could indicate that global recognition appeals to prospective employees. Based on the results in both groups, multicollinearity is rejected at a threshold of 0.7.

Table 4. Pearson Correlation Matrix for consolidated regression variables

Group A: Dependent Variables										
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) <i>MED_TEN</i>	1.00									
(2) <i>CEO_TEN</i>	-0.11*	1.00								
(3) <i>PRE_SCH</i>	-0.17***	0.10	1.00							
(4) <i>CEO_SAL</i>	-0.15**	0.05	0.18***	1.00						
(5) <i>COS_EMP</i>	-0.24***	0.06	0.26***	0.46***	1.00					
(6) <i>EBIT_MAR</i>	0.08	0.06	0.15**	-0.28***	-0.30***	1.00				
(7) <i>REV_FTE</i>	0.05	-0.04	-0.02	-0.16***	-0.49***	0.09	1.00			
(8) <i>INT_AST</i>	-0.03	0.05	0.01	0.27***	0.22***	-0.22***	-0.13**	1.00		
(9) <i>VOT_FTE</i>	-0.16***	0.10	0.27***	0.42***	0.12*	0.03	0.17***	-0.09	1.00	
Group B: Independent Variables										
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) <i>VOT_FTE</i>	1.00									
(2) <i>REVENUE</i>	-0.11*	1.00								
(3) <i>GLO_FTE</i>	0.35***	0.00	1.00							
(4) <i>EBIT</i>	-0.11*	0.69***	-0.02	1.00						
(5) <i>TAN_AST</i>	-0.10	0.47***	-0.08	0.46***	1.00					
(6) <i>NWC</i>	-0.05	0.24***	-0.02	0.25***	0.17***	1.00				
(7) <i>SWE_FTE</i>	-0.28***	-0.07	-0.44***	0.00	0.14**	-0.03	1.00			
(8) <i>FTE_GRO</i>	0.08	-0.02	-0.11*	-0.06	-0.02	0.00	0.12*	1.00		
(9) <i>GENDER</i>	0.03	0.04	-0.01	-0.02	0.08	0.14**	-0.09	0.05	1.00	
(10) <i>FOL_FTE</i>	0.32***	-0.13**	0.11*	-0.17***	-0.05	-0.04	-0.19***	0.19***	-0.01	1.00

Note: The above table shows the Pearson correlation matrix for all regression variables. Group A presents the correlation between the dependent variables and independent variable. Group B presents the correlation between the independent variable and control variables. *** $p < 0.01$, ** $p < 0.05$ and * $p < 0.10$.

6.3. Consolidated results

Table 5 presents the result of our OLS regressions utilizing the consolidated data, which incorporates all respondents irrespective of their academic orientation. The objective is to assess the relationships between the independent variable, namely employer attractiveness (VOT_FTE), and the eight dependent variables. The findings indicate a statistically significant relationship for four dependent variables, namely, CEO and board compensation in relation to revenue (CEO_SAL), percentage of employees that have attended a top-ranked Swedish university (PRE_SCH), operating profit in relation to revenue (EBIT_MAR), and net intangible assets in relation to revenue (INT_AST).

For CEO and board compensation in relation to revenue (CEO_SAL), we observe a positive correlation (coefficient of 0.395) with the independent variable (VOT_FTE) at a statistical significance of less than 1 percent. The findings suggest that for each incremental increase in our independent variable (VOT_FTE), CEO and board salaries increase by approximately 0.4 percent of sales. The result is somewhat contradictory to prior research that have found that CEOs at prestigious firms are willing to accept a lower remuneration in exchange for the benefits of working for a highly regarded company, such as career benefits and status (Focke et al., 2017; Persons, 2014). However, there are two plausible explanations for this discrepancy. Firstly, we utilize a sample comprising Swedish organizations, whereas Focke et al. (2017) utilizes a dataset of American firms. Secondly, we examine employer attractiveness from the standpoint of prospective employees, while Focke et al. (2017) examines attractiveness from the standpoint of shareholders and equity analysts. Regarding this study, higher CEO and board compensation may appeal to prospective employees, acting as a proxy for future compensation. However, in the case of Focke et al. (2017), higher CEO and board compensation can be viewed as unattractive, as less cash is distributed to shareholders.

For the percentage of employees that have attended a top-ranked Swedish university (PRE_SCH), we observe a positive correlation (coefficient of 2.015) with a statistical significance of less than 5 percent. The result implies that for each incremental increase in employer attractiveness (VOT_FTE), the workforce consists of roughly 2 percent more individuals with an education from a prestigious school. This is consistent with prior research suggesting that attractive firms have larger candidate pools, hence leading to a

greater number of high-quality talents to choose from (Connerley et al., 2003; Cable & Turban, 2003; Roth et al., 1996).

Another noteworthy finding, related to the HR performance metrics, is that we did not observe a statistical significance between the independent variable (VOT_FTE) and median employee tenure (MED_TEN). Prior research has produced inconsistent results on the relationship between employer attractiveness and employee retention. Some scholars argue that the possibility to hire candidates with a strong person-organizational fit has a positive impact on employee retention (Sims & Kroeck, 1994; O'Reilly et al., 1991; Posner et al., 1985). Others suggest that candidates see difficult-to-get jobs as stepping-stones and favor them due to the perceived future external job mobility opportunities (Tan & Rider, 2017). This finding may imply that employer attractiveness' suggestibly positive and negative relation to employee retention cancel out each other.

For operating profit in relation to revenue (EBIT_MAR) we observe a positive correlation (coefficient of 4.405) with the independent variable (VOT_FTE), this with a statistical significance of less than 10 percent. Implying that for each incremental increase in employer attractiveness (VOT_FTE), the observed operating profit in relation to revenue (EBIT_MAR) is roughly 4 percent higher. This result aligns with previous research that emphasizes the importance of high-quality candidate pools in enabling selective recruitment, which in turn is linked to profitability (e.g, Terpstra and Rozell, 1992; Kim and Ployhart, 2014). Another plausible explanation for the positive coefficient, supported by prior research, can be increased employee engagement. Higher engagement is linked to higher productivity and performance but also leads to less absenteeism, which in turn increases profitability as organizational costs decrease (Markos & Sridevi, 2001; Kocakulah et al., 2016). However, we do not find a statistically significant relationship between the independent variable (VOT_FTE) and the utilized productivity measure, revenue per full-time employee (REV_FTE). The lack of statistical significance for revenue per full-time employee (REV_FTE) indicates that employer attractiveness may not necessarily lead to higher productivity. We argue that these results suggests that employer attractiveness may not result in higher productivity, instead it might be the case that attractive employers are able to pay less for the same level of productivity due to having access to a larger pool of qualified candidates to choose from.

Finally, for the correlation between the independent variable (VOT_FTE) and net intangible assets in relation to revenue (INT_AST), we observe a negative correlation (coefficient of -6.791) with a statistical significance of less than 10 percent. As such, for each incremental increase in employer attractiveness (VOT_FTE), net intangible assets in relation to revenue is roughly 7 percent lower. This finding is in line with our expectations that attractive employers are able to acquire skills and competencies organically. Consequently, this makes them less dependent on acquiring skills and expertise through acquisitions. A lower acquisition intensity results in less investment in intangible assets such as goodwill, capitalized customer relationships and trademarks (Austin, 2007). While this finding is, to our knowledge, previously unexplored, it supports Cable and Turban's (2003) finding that reputable employers have a larger pool of talent to recruit from.

The results from the OLS regressions, presented in Table 5, partially support our first hypothesis (H1) that employer attractiveness positively correlates with HR performance metrics. We reject the null hypothesis at a 5 percent level of significance for the percentage of employees that have attended a top-ranked Swedish university (PRE_SCH) variable. Similarly, we conclude that our second hypothesis (H2), namely that employer attractiveness positively correlates with organizational performance metrics, also is partially supported. We can reject the second null hypothesis at a 10 percent level of significance for both the operating profit in relation to revenue (EBIT_MAR) and net intangible assets in relation to revenue (INT_AST) variables.

Table 5. Consolidated OLS regressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	MED_TEN	CEO_TEN	PRE_SCH	CEO_SAL	COS_EMP	EBIT_MAR	REV_FTE	INT_AST
Intercept	5.094*** (0.972)	-3.921 (2.645)	2.445 (2.903)	0.463 (0.455)	46.298*** (11.748)	-4.610 (15.400)	6.783 (5.033)	-38.112 (31.204)
VOT_FTE	-0.058 (0.115)	0.953 (0.837)	2.015** (0.957)	0.395*** (0.149)	3.148 (2.618)	4.405* (2.583)	1.663 (1.913)	-6.791* (3.866)
REVENUE	0.002 (0.004)	-0.006 (0.012)	-0.004 (0.011)	-0.003** (0.001)	-0.090** (0.040)	-0.164*** (0.049)	0.045 (0.031)	-0.009 (0.063)
GLO_FTE	-3.965** (1.576)	0.895 (6.369)	-4.371 (7.557)	-1.920*** (0.625)	-14.572 (15.216)	36.195** (16.077)	-1.172 (8.594)	-34.513** (17.247)
EBIT	0.044** (0.022)	0.058 (0.039)	0.040 (0.041)	-0.004 (0.005)	0.023 (0.205)	1.612*** (0.271)	-0.154 (0.125)	0.464 (0.287)
TAN_AST	-0.011 (0.007)	-0.025 (0.016)	0.022 (0.017)	0.002 (0.001)	-0.020 (0.061)	0.065 (0.099)	-0.001 (0.045)	0.081 (0.135)
NWC	-0.004 (0.021)	0.085 (0.069)	-0.076 (0.098)	0.002 (0.005)	-0.402* (0.225)	-0.105 (0.247)	0.218* (0.132)	-0.043 (0.374)
SWE_FTE	-0.247 (0.377)	3.221*** (1.188)	-0.743 (1.532)	0.010 (0.137)	1.656 (4.361)	6.242 (4.218)	-4.710* (2.407)	20.424*** (7.335)
FTE_GRO	-4.312*** (0.899)	6.322** (2.480)	3.272 (2.943)	-0.101 (0.455)	12.291 (12.985)	-14.191 (26.289)	-2.751 (2.890)	75.301** (33.019)
GENDER	1.051 (0.763)	6.135*** (2.054)	0.320 (2.350)	-0.289 (0.330)	-20.936** (9.292)	16.304 (10.140)	3.778 (4.137)	28.701* (16.453)
FOL_FTE	-0.009* (0.005)	-0.009 (0.016)	0.029 (0.020)	0.004 (0.003)	0.089 (0.059)	-0.132 (0.086)	-0.017 (0.025)	0.221 (0.206)
Industry adj.	YES	YES	YES	YES	YES	YES	YES	YES
Ownership adj.	YES	YES	YES	YES	YES	YES	YES	YES
N	250	250	250	250	250	250	250	250
R ²	0.260	0.151	0.213	0.305	0.358	0.380	0.215	0.198

Note: The table shows the summarized output form the regressions for the consolidated data using VOT_FTE as the independent variable of interest. The predicted β coefficient is provided with the robust standard error in parenthesis below. *** p < 0.01, ** p < 0.05 and * p < 0.10.

6.4. Results based on the academic background of survey respondents

To test the third hypothesis, which states that the relationship between employer attractiveness, HR performance metrics and organizational performance metrics varies depending on the academic background of survey respondents, we conduct three separate OLS regressions for students enrolled in business, engineering, and IT studies, respectively. When the regressions were conducted on business students, as presented in Appendix C, we found statistical significance for three dependent variables. Specifically, a positive correlation was observed between the independent variable (VOT_FTE) and CEO and board compensation in relation to revenue (CEO_SAL) with a statistical significance of less than 1 percent. Furthermore, a significant positive correlation was observed for cost of employees in relation to revenue (COS_EMP) with a statistical significance of less than 1 percent. Additionally, a negative correlation was observed for net intangible assets in relation to revenue (INT_AST) with a statistical significance of less than 10 percent. When we only considered responses from engineering students, as presented in Appendix D, we solely observed a negative statistical significance for net intangible assets in relation to revenue (INT_AST) with a statistical significance of less than 10 percent. Finally, when only considering responses from IT students, presented in Appendix E, we only observed a positive statistical significance for revenue per full-time employee (REV_FTE) with a statistical significance of less than 10 percent. The reason that we observe less significant variables in the sub-sample analysis is partly attributable to the smaller datasets. For instance, for IT, which is our smallest dataset with 81 organizational observations, we observe substantially higher error terms in comparison to the consolidated regression model.

These findings support our third hypothesis (H3) as no variable shows a correlation with the independent variable (VOT_FTE) across all three student categories at a statistical significance of less than 10 percent, indicating a high degree of variability among the results for each group. Moreover, our results reveal an interesting finding, we observe a significant correlation between employer attractiveness and revenue per full-time employee (REV_FTE) for IT students. While this might suggest that having a large pool

of IT-equipped individuals leads to productivity through automation, further research is required to confirm this assertion.

6.5. Salary adjustment

The purpose of this analysis was to investigate whether the positive correlation between employer attractiveness, HR, and organizational performance are affected when controlling for average employee salary. Prior research suggests that having a substantial and high-quality candidate pool enable organizations to increase productivity and engagement which in turn yields organizational benefits (e.g., Cable & Turban, 2003; Connerley et al., 2003; Kim & Ployhart, 2014). However, the costs associated with establishing a position as an attractive employer need to be considered as well. Increasing salaries may be an effective way to achieve this but that also comes with a cost that potentially offsets the advantages of being an attractive employer. Some dependent variables utilized in this study, such as EBIT margin (EBIT_MAR), account for varying salary levels, while others, such as revenue per full-time employee (REV_FTE), do not. The variable for employer attractiveness (VOT_FTE) and average employee salary (AVG_SAL) has a correlation coefficient of 0.52 (0.61 pre-winsorization). By adding it as a control we aimed to explore if the non-salary driven factor of employer attractiveness correlates with either HR or organizational performance.

The results, as presented in Appendix F, showed that only one dependent variable, CEO and board compensation in relation to revenue (CEO_SAL), were statistically significant at a 10 percent level with a positive coefficient. Interestingly, two variables that previously were statistically significant, number of employees that have attended a top-ranked Swedish university (PRE_SCH) and net intangible assets in relation to revenue (INT_AST), were now significant with the average employee salary (AVG_SAL) variable. These findings do not reject our hypothesis since average employee salary is a key component in employer attractiveness. However, these findings add nuance to the initial findings by suggesting that there is a cost associated with the potential advantages of employer attractiveness. Furthermore, it also provides managerial implications for those who aim to increase their employer attractiveness, as it suggests that salary may be an effective lever. However, it is important to consider the potential trade-offs and costs associated with this strategy.

6.6. The value of being recognized as an attractive employer

To determine whether any observed correlation is influenced by being visible on the ranking itself we conducted a regression discontinuity design (RDD) using a Mann-Whitney U test (see Appendix A). The analysis was conducted on the bottom 20 organizations on the publicly visible ranking (position 81-100) and the following 20 organizations that did not make it on the list (position 101-120) for each educational field. These lists can be obtained by submitting your email on Universum website.

The results of the analysis, as presented in Table 6, suggest that having a presence on the publicly available ranking has little to no impact on HR and organizational performance. Only a few variables reached statistical significance within engineering and IT students, while no significance was observed for business students. Moreover, for the significant variables, the mean was more favorable for organizations not visible on the ranking in four out of seven variables. The same analysis was conducted for organizations included in the top-3 list, which does not require email input, and the following three organizations (presented in Appendix G). However, due to the limited number of observations the results are highly influenced by the industry composition.

In conclusion, while there may be some limited impact of being recognized in a ranking for certain student groups, the overall findings suggest that being recognized on the public list itself does not considerably influence the HR or organizational performance metrics. These findings provide valuable insights into the effects of public rankings on student's decision-making process.

Table 6. Summarized means and Mann-Whitney U tests

	<u>Not Visible</u>	<u>Visible</u>	<u>Not Visible</u>	<u>Visible</u>		
	Mean	Mean	n	n	Z	Prob > z
MED_TEN						
<i>Business</i>	5.35	5.58	20	20	-0.474	0.636
<i>MSc Engineering</i>	4.35	5.59	20	20	-2.274	0.023
<i>IT</i>	4.00	5.33	10	10	-1.740	0.082
CEO_TEN						
<i>Business</i>	4.40	4.86	20	20	-0.569	0.569
<i>MSc Engineering</i>	6.19	3.65	20	20	1.952	0.051
<i>IT</i>	6.85	2.81	10	10	1.551	0.121
PRE_SCH						
<i>Business</i>	6.07	5.11	20	20	1.271	0.204
<i>MSc Engineering</i>	8.40	4.18	20	20	2.245	0.025
<i>IT</i>	3.61	4.94	10	10	-1.209	0.227
CEO_SAL						
<i>Business</i>	0.27	0.36	19	19	0.861	0.389
<i>MSc Engineering</i>	0.16	0.25	19	20	-1.012	0.312
<i>IT</i>	0.79	0.39	10	9	1.143	0.253
COS_EMP						
<i>Business</i>	27.13	24.57	19	19	0.365	0.715
<i>MSc Engineering</i>	32.78	30.00	19	20	-0.225	0.822
<i>IT</i>	30.42	23.94	10	9	0.163	0.870
EBIT_MAR						
<i>Business</i>	17.08	10.53	19	19	1.445	0.148
<i>MSc Engineering</i>	9.80	0.92	18	20	2.807	0.005
<i>IT</i>	17.11	-11.53	10	9	2.041	0.041
REV_FTE						
<i>Business</i>	4.51	5.83	19	19	-0.803	0.422
<i>MSc Engineering</i>	5.78	6.12	19	20	0.562	0.574
<i>IT</i>	4.79	4.79	10	9	-0.408	0.683
INT_AST						
<i>Business</i>	14.80	6.65	19	19	0.981	0.327
<i>MSc Engineering</i>	10.62	7.46	19	20	-0.478	0.633
<i>IT</i>	59.28	4.98	10	9	1.718	0.086

Note: The table presents all the summarized means (Mean) and number of observations (n) for the last twenty organizations visible on the ranking (position 81-100) as well as the following twenty organizations not visible in the 2021 rankings. The Z score (Z) and p-value (Prob > z) are the outcomes from the Mann-Whitney U test.

6.7. Robustness checks

To explore the validity and sensitivity of our findings, we conduct a series of robustness tests. First, we examine the impact of an alternative measure of size. Second, we conduct a lagged dependent variable regression to examine whether the findings hold when basing the regressions on a prior years' ranking. In addition to these robustness tests, we also test an alternative measure of employer attractiveness that is not adjusted for the current number of full-time employees within the organization. However, the variable correlates strongly with our size controls and we lose significance for three out of the four dependent variables. This reinforce our belief that the number of individuals that want to work at an organization needs to be put in relation to the number of people that already work there, to provide an appropriate measurement of an organization's ability to be selective in their recruitment, consistent with the findings of previous studies (for e.g., Millmore, 2003; Terpstra & Rozell, 1992).

6.7.1. Alternative measure of size

To ensure the robustness of our findings, we substitute the control variable revenue (REVENUE) with the number of Swedish full-time employees (FTE). Employing employees as a control for size is consistent with previous studies (e.g., Tumasjan et al., 2020). In this robustness test, we control for both the number of employees in the Swedish entity and the global number of employees in the parent organization. As presented in Appendix H, the results showed that all four significant dependent variables remained significant, and the coefficients were similar to those obtained using revenue as the size variable. Therefore, we conclude that our findings are resilient even when testing for an alternative measure of organizational size.

6.7.2. Lagged dependent variable regression

To examine whether our findings are prone to potential lag effects in measuring the correlation between employer attractiveness and HR and organizational performance we analyzed the deviation in ranking positions over a three- and five-year period respectively. We found that the ranking positions in general, and specifically the organizations positioned in the top ten, are relatively stable over time.

Table 7. Variance in ranking position

Dataset	Standard deviation					Organizations remaining as top-10 ¹	
	N	Mean	Q1	Q2	Q3	Last 3 rankings	Last 5 rankings
Business	175	6.94	2.83	5.73	9.27	80%	78%
MSc Engineering	185	8.26	3.09	7.13	12.49	89%	100%
IT	107	6.49	2.05	5.35	9.39	78%	57%

Note: The table presents the standard deviation for ranking position and the percentage of organizations that have remained ranked in the top ten for the last three and five years. First, it provides the number of observations (N), the mean (Mean), 25th percentile (Q1), 50th percentile (Q2), and 75th percentile (Q3) standard deviation in ranking position.

To further validate our results, we re-ran the regression using the employer attractiveness results announced in 2020 (gathered in 2019) as our independent variable. The results, as presented in Appendix I, remained intact with those obtained using the employer attractiveness results released in 2021, except for EBIT margin (EBIT_MAR). The p-value for EBIT margin (EBIT_MAR) shifted marginally, from 0.089 to 0.107 when we use the employer attractiveness results released in 2020. We argue that the similar p-values and coefficients reinforce the robustness of our results, indicating that the identified significant correlations remain valid despite the regressions being based on the ranking of a previous year.

¹ Organizations that did not participate in the survey prior to 2021 have been adjusted for by removing them from the denominator when calculating the percent of the organizations that have remained in the top-10

7. Conclusion

Utilizing a proprietary dataset of Swedish organizations, provided by Universum, we examine the relationships between employer attractiveness and HR as well as organizational performance. We also examined how these relationships vary depending on the academic background of the survey respondents. Employing an OLS regression analysis, we find a positive correlation between employer attractiveness and certain HR performance metrics, more specifically, the percentage of employees that have attended a top-ranked Swedish university as well as CEO and board salary in relation to sales. The latter finding is somewhat contradictory to previous research, suggesting that CEOs are willing to accept a lower remuneration to work for a prestigious employer (Focke et al., 2017; Persons, 2014). With regards to employer attractiveness correlation to organizational performance metrics, we find a positive correlation to EBIT margin, and a negative correlation with net intangible assets in relation to revenue. The former supports prior research within the recruitment field, suggesting that having access to a large candidate pool relates to higher productivity (Kim & Ployhart, 2014; Huselid, 1995). Our interpretation of the net intangible assets in relation to revenue result is that organizations capable of acquiring new skills and competencies through recruiting are less likely to engage in M&A. Finally, when splitting the employer attractiveness rankings into the academic backgrounds of survey participants, we observe significant differences in the relationships between employer attractiveness and HR performance metrics as well as organizational performance between the groups.

It is undeniable that prospective job seekers may have a greater propensity to be attracted to well-performing organizations. In order to mitigate the effects of reverse causality we incorporated controls, such as profit and growth. However, as it is difficult to fully account for, we are satisfied with acknowledging the existence of these relationships. Moreover, our analysis concludes that the variance in rankings is low over time, suggesting that if there is a causality, we would be able to capture most of the impact of employer attractiveness even with data collected for only one year on HR and organizational performance metrics.

This study provides three noteworthy contributions to the research field investigating the relationship between employer attractiveness and HR as well as organizational outcomes. Firstly, to the best of our knowledge, this is the first study that explores the link between employer attractiveness, based on the perception of prospective employees, with HR and organizational performance using an extensive dataset. As such, addressing the call from Gamage (2014), by providing more evidence regarding the relationships between recruitment and organizational performance through relatively larger datasets. Secondly, the study provides evidence that the impact of employer attractiveness on HR and organizational performance varies depending on the academic background and corresponding skillset of the individuals who prefer the organization. Thirdly, in contrast to prior literature, this study gathers financial data on an entity-level basis, rather than a parent-level basis for MNCs, since corporate-parent has been shown to be incapable of explaining the variance of organizational performance in entities (Rumelt, 1991; McGahan & Porter, 1997).

The findings of this study offer multiple avenues for future research. Firstly, there remains a need for longitudinal studies to establish causality and identify temporal patterns. Although we assessed it to be unfeasible to conduct a longitudinal analysis in the Swedish market due to the impact it would have on the sample size, our methodology presents an opportunity for future research in markets with larger sample sizes. Secondly, given our finding that employer attractiveness is relatively stable over time, it would be interesting to examine the variance in a longitudinal study using other HR metrics. Especially those that have been frequently used to examine the relationship with share returns, such as employee satisfaction. Edmans (2011) argument behind the suggested anomaly, namely investors' inability to incorporate intangible factors, becomes questionable since if employee satisfaction is equally stable it should already be manifested through tangible outcomes such as profits. Thirdly, research focused on other geographical markets could reveal how various contextual factors, such as labor flexibility, influence the relationships between employer attractiveness and HR as well as organizational performance. Finally, alternative methods of accounting for organizational size within the construct of employer attractiveness should be explored to advance our understanding of how employer attractiveness operates in an organizational context.

8. References

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9. Appendix

Appendix A: Mann-Whitney U test

The Mann-Whitney U test is a non-parametric (i.e., does not require probability distribution) statistical test that assesses whether two independent samples were selected from populations having the same distribution (McKnight & Najab 2010). We use the Mann-Whitney U test to compare the differences in the performance metrics between the organizations ranked 81 to 100 that are publicly visible (group 1), and organizations ranked 101 to 120 (group 2) for each of the three separate student rankings. The null hypothesis is that there is no difference in performance between the two groups, whilst the alternative hypothesis is that there is a difference. To perform the Mann-Whitney U test, all observations are ranked from lowest to highest, regardless of which student category they belong to. We then sum the ranks of the observations in group 1 and 2 separately. The group with the smaller sum of ranks is assigned the U_1 value, and the group with the larger sum of ranks is assigned the U_2 value.

The mathematical formula we employed for the test is:

$$U_1 = R_1 - \frac{n_1(n_1 + 1)}{2}$$

where U_1 is the Mann-Whitney U statistic, R_1 is the sum of the ranks and n_1 is the size of the first group. Note that the test is indifferent to which group is the first.

In order to determine whether a significant difference exists, we use a significance level of 10 percent. If the p-value is below 0.10, we reject the null hypothesis and conclude that there is a significant difference between the groups.

Appendix B: Summary of regression variables

All variables relate to the Swedish entity, unless stated otherwise.

Variable	Definition	Construction	Data source/s
MED_TEN	Median employee tenure	The median period of time (years) employees has worked for the organization (globally)	LinkedIn
CEO_TEN	CEO tenure	The period (years) the CEO has worked for the organization	LinkedIn
PRE_SCH	Percentage of employees that have attended a top-ranked Swedish university ²	The number of employees that have attended a top ranked Swedish University ² divided by total employees presented in percent	LinkedIn
CEO_SAL	CEO and board compensation in relation to revenue	Total remuneration to the CEO and board including fixed salaries, bonuses, pensions i.a. presented in percent	Annual report
COS_EMP	Cost of employees in relation to revenue	Total cost of employees, including salaries, pensions, taxes, i.a., divided by revenue presented in percent	Annual report
EBIT_MAR	Operating profit in relation to revenue	Earnings before interest and tax (i.e., "EBIT") divided by revenue presented in percent	Annual report
REV_FTE	Revenue per full-time employee	Revenue divided by average number of full-time employees presented in thousands	Annual report
INT_AST	Net intangible assets in relation to revenue	Acquired intangible assets less accumulated amortizations divided by revenue presented in percent	Annual report
VOT_FTE	Employer attractiveness	Total number of votes an organization has received by study participants divided by average number of full-time employees	Proprietary data from Universum Employer Branding
REVENUE	Revenue	Total revenue for the last fiscal year presented in billions	Annual report
GLO_FTE	Employees globally	Current number of employees working for the organization globally presented in millions	LinkedIn

² Refers to Stockholm School of Economics, the highest ranked Swedish University within accounting and finance, and Royal institute of Technology which is the highest ranked Swedish University within engineering and computer science (QS, 2023).

EBIT	Operating profit	Earnings before interest and tax (i.e., "EBIT"), to harmonize among accounting standards, we have added back goodwill amortizations for non-IFRS entities presented in billions	Annual report
TAN_AST	Net tangible assets	Acquired tangible assets less accumulated depreciation (i.e., the book value) presented in billions	Annual report
NWC	Net working capital	Total operating current assets less total operating current liabilities presented in billions	Annual report
SWE_FTE	Percentage of employees located in Sweden	The number of employees located in Sweden divided by total employees globally presented in basis points	LinkedIn
FTE_GRO	Organizational growth	Average number of employees in the last year divided by average number of employees in the preceding year subtracted with one presented in basis points	Annual report
GENDER	Gender diversity within the organization	Full-time employees identifying as male divided by total employees presented in basis points	Annual report
FOL_FTE	Relative organizational recognition	Number of global followers on LinkedIn divided by total employees presented in basis points	LinkedIn
AVG_SAL	Average employee salary	Total cost of employees divided by average number full-time employees presented in millions	Annual report

Appendix C: Business OLS regression

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	MED_TEN	CEO_TEN	PRE_SCH	CEO_SAL	COS_EMP	EBIT_MAR	REV_FTE	INT_AST
Intercept	4.714*** (1.107)	-4.174 (3.887)	1.511 (3.501)	0.682 (0.627)	46.530*** (14.526)	-42.433** (21.213)	9.243 (6.262)	-18.806 (20.102)
VOT_FTE	-0.010 (0.044)	0.806 (0.548)	0.444 (0.636)	0.411*** (0.019)	2.560*** (0.751)	1.937 (1.628)	-0.412 (0.516)	-0.902* (0.511)
REVENUE	-0.391 (3.402)	-10.377 (10.635)	-13.306 (11.340)	-2.046* (1.101)	-39.445 (37.832)	-187.231*** (49.232)	19.800 (27.816)	-7.711 (43.620)
GLO_FTE	-4.722** (1.836)	5.888 (7.686)	-11.602 (11.027)	-1.659** (0.676)	3.661 (21.389)	82.358*** (22.979)	-19.331 (16.765)	-24.502 (18.506)
EBIT	0.050*** (0.019)	0.043 (0.033)	0.047 (0.036)	-0.006 (0.004)	-0.174 (0.179)	1.747*** (0.274)	-0.116 (0.125)	0.143 (0.244)
TAN_AST	-0.008 (0.008)	-0.010 (0.011)	0.016 (0.013)	0.001 (0.002)	-0.059 (0.061)	0.081 (0.080)	-0.019 (0.065)	0.170* (0.090)
NWC	-0.011 (0.030)	0.016 (0.062)	-0.286*** (0.094)	-0.002 (0.009)	-0.395* (0.224)	-0.326 (0.253)	0.119 (0.152)	-0.055 (0.473)
FTE	-0.104 (0.514)	4.027** (1.706)	-3.511 (2.440)	-0.118 (0.254)	-3.511 (5.798)	18.099** (8.724)	-11.040** (5.052)	16.115* (8.452)
FTE_GRO	-4.557*** (1.380)	5.567 (3.709)	6.288 (5.079)	-0.805 (0.739)	-3.148 (18.914)	52.159* (29.917)	0.027 (6.915)	-3.801 (15.318)
GENDER	1.875* (0.976)	8.072** (3.093)	8.475** (3.621)	-0.328 (0.486)	-14.858 (12.065)	28.673 (17.504)	12.504 (8.546)	18.022 (14.209)
FOL_FTE	-0.013*** (0.005)	0.002 (0.018)	0.067*** (0.024)	0.003 (0.002)	-0.004 (0.050)	0.001 (0.086)	-0.007 (0.040)	-0.046 (0.066)
Industry adj.	YES	YES	YES	YES	YES	YES	YES	YES
Ownership adj.	YES	YES	YES	YES	YES	YES	YES	YES
N	132	132	132	132	132	132	132	132
R ²	0.370	0.216	0.384	0.571	0.430	0.510	0.189	0.165

Note: The table shows the summarized output from the regressions for the consolidated data using VOT_FTE as the independent variable. The predicted β coefficient is provided with the robust standard error in parenthesis below. *** p < 0.01, ** p < 0.05 and * p < 0.10

Appendix D: MSc Engineering OLS regression

	(1) MED_TEN	(2) CEO_TEN	(3) PRE_SCH	(4) CEO_SAL	(5) COS_EMP	(6) EBIT_MAR	(7) REV_FTE	(8) INT_AST
Intercept	4.274*** (1.549)	-0.310 (3.740)	8.412** (4.082)	0.589 (0.732)	12.946 (22.911)	76.665*** (28.462)	6.665 (6.170)	-68.527 (45.708)
VOT_FTE	-0.167 (0.800)	-2.387 (1.674)	6.834 (4.501)	0.065 (0.239)	-18.397 (15.683)	23.010 (14.063)	12.129 (9.648)	-30.578* (18.196)
REVENUE	4.730 (3.687)	-13.579 (13.498)	-10.295 (13.640)	-2.297* (1.163)	-166.092*** (51.394)	-111.186 (70.444)	40.778 (30.242)	-59.866 (80.614)
GLO_FTE	-2.715 (2.503)	-6.136 (5.109)	-5.138 (9.967)	-0.563 (0.467)	11.335 (33.349)	-9.322 (37.580)	-10.016 (15.004)	-50.344* (25.699)
EBIT	0.016 (0.023)	0.121 (0.080)	0.100 (0.107)	0.000 (0.007)	0.591* (0.321)	1.454*** (0.410)	-0.200 (0.164)	0.995** (0.456)
TAN_AST	-0.011 (0.007)	-0.030* (0.017)	0.020 (0.021)	0.001 (0.001)	0.051 (0.099)	-0.046 (0.168)	0.013 (0.037)	0.077 (0.184)
NWC	0.001 (0.013)	0.049 (0.038)	-0.032 (0.110)	-0.001 (0.003)	-0.593*** (0.141)	0.130 (0.237)	0.215*** (0.067)	-0.276 (0.262)
SWE_FTE	-0.249 (0.566)	3.113* (1.606)	0.896 (1.759)	0.048 (0.113)	7.164 (6.956)	-3.008 (6.642)	-0.849 (2.272)	14.565* (8.446)
FTE_GRO	-3.080*** (1.094)	0.082 (2.742)	-1.826 (3.310)	0.632 (0.449)	89.724*** (31.670)	-159.112*** (49.608)	-7.805** (3.538)	112.438*** (33.938)
GENDER	1.264 (1.206)	-0.251 (3.280)	-8.821* (4.532)	-0.870 (0.572)	-35.075* (18.383)	-18.847 (19.468)	-4.475 (7.390)	17.133 (19.642)
FOL_FTE	-0.004 (0.008)	0.026 (0.021)	0.029 (0.020)	0.003 (0.003)	0.226* (0.122)	-0.303** (0.149)	0.012 (0.032)	0.307 (0.239)
Industry adj.	YES	YES	YES	YES	YES	YES	YES	YES
Ownership adj.	YES	YES	YES	YES	YES	YES	YES	YES
N	159	159	159	159	159	159	159	159
R ²	0.217	0.138	0.202	0.290	0.538	0.647	0.339	0.456

Note: The table shows the summarized output from the regressions for the consolidated data using VOT_FTE as the independent variable. The predicted β coefficient is provided with the robust standard error in parenthesis below. *** $p < 0.01$, ** $p < 0.05$ and * $p < 0.10$.

Appendix E: IT OLS regression

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	MED_TEN	CEO_TEN	PRE_SCH	CEO_SAL	COS_EMP	EBIT_MAR	REV_FTE	INT_AST
Intercept	6.336*** (1.859)	-0.551 (6.604)	1.796 (5.667)	0.924 (0.661)	45.840** (19.183)	-42.924** (17.947)	22.490* (11.33)	-56.388 (52.448)
VOT_FTE	-0.716 (0.529)	-2.480 (1.610)	0.734 (2.656)	0.001 (0.397)	-14.997 (11.415)	2.822 (7.635)	22.515* (12.04)	-20.215 (24.130)
REVENUE	5.271 (3.577)	-1.125 (10.988)	-7.585 (13.322)	-1.141 (1.035)	-63.287 (40.359)	-123.137** (57.638)	27.835 (23.958)	-122.530 (96.850)
GLO_FTE	-2.548 (2.147)	3.408 (7.010)	3.210 (10.891)	-0.528 (0.750)	6.104 (26.864)	36.725** (14.517)	-28.569 (20.907)	-15.473 (39.969)
EBIT	0.042 (0.026)	0.032 (0.061)	0.018 (0.085)	-0.008 (0.007)	0.387 (0.230)	1.403** (0.537)	-0.128 (0.133)	0.352 (0.710)
TAN_AST	-0.022*** (0.008)	-0.041** (0.016)	0.008 (0.028)	0.000 (0.003)	-0.366*** (0.086)	0.110 (0.114)	0.127* (0.075)	0.121 (0.239)
NWC	-0.008 (0.011)	0.065 (0.043)	-0.063 (0.062)	0.006 (0.006)	-0.019 (0.188)	-0.394* (0.213)	-0.025 (0.094)	-0.051 (0.428)
SWE_FTE	-0.552 (0.649)	1.544 (3.056)	-0.954 (2.900)	-0.208 (0.422)	2.536 (13.177)	10.377 (9.833)	-8.934 (6.40)	31.575 (27.944)
FTE_GRO	-3.915*** (1.363)	12.699** (6.025)	9.064** (4.247)	0.776 (0.864)	16.368 (20.876)	16.581 (20.302)	-7.163 (7.637)	64.658 (57.373)
GENDER	2.204** (1.166)	5.896 (4.759)	0.746 (5.548)	-0.009 (1.180)	1.769 (33.276)	18.401 (29.560)	-15.695 (13.55)	60.039 (73.308)
FOL_FTE	-0.012* (0.006)	0.000 (0.027)	0.063** (0.031)	0.001 (0.003)	0.153 (0.107)	0.106 (0.067)	0.003 (0.040)	-0.174 (0.212)
Industry adj.	YES	YES	YES	YES	YES	YES	YES	YES
Ownership adj.	YES	YES	YES	YES	YES	YES	YES	YES
N	81	81	81	81	81	81	81	81
R ²	0.479	0.251	0.316	0.245	0.358	0.625	0.306	0.179

Note: The table shows the summarized output from the regressions for the consolidated data using VOT_FTE as the independent variable. The predicted β coefficient is provided with the robust standard error in parenthesis below. *** $p < 0.01$, ** $p < 0.05$ and * $p < 0.10$.

Appendix F: Consolidated OLS regression (including average salary as a control variable)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	MED_TEN	CEO_TEN	PRE_SCH	CEO_SAL	COS_EMP	EBIT_MAR	REV_FTE	INT_AST
Intercept	4.655*** (0.985)	-3.928 (2.764)	-4.405 (3.249)	0.424 (0.488)	47.933*** (12.421)	-7.413 (16.366)	2.046 (5.155)	-27.816 (29.605)
VOT_FTE	-0.168 (0.139)	0.952 (0.777)	0.293 (0.754)	0.386** (0.162)	3.559 (2.693)	3.701 (3.043)	0.472 (1.973)	-4.204 (3.328)
AVG_SAL	0.492 (0.336)	0.007 (0.925)	7.689*** (2.031)	0.043 (0.209)	-1.836 (4.035)	3.147 (4.395)	5.318*** (1.739)	-11.557* (6.011)
REVENUE	0.002 (0.004)	-0.006 (0.012)	0.000 (0.012)	-0.003** (0.001)	-0.090** (0.040)	-0.162*** (0.049)	0.047 (0.031)	-0.015 (0.064)
GLO_FTE	-4.321*** (1.524)	0.890 (6.503)	-9.924 (8.186)	-1.951*** (0.648)	-13.246 (15.022)	33.922** (15.380)	-5.013 (8.194)	-26.166 (16.107)
EBIT	0.045** (0.022)	0.058 (0.039)	0.054 (0.039)	-0.004 (0.005)	0.020 (0.205)	1.617*** (0.273)	-0.145 (0.121)	0.444 (0.281)
TAN_AST	-0.011 (0.007)	-0.025 (0.016)	0.014 (0.016)	0.002 (0.001)	-0.019 (0.061)	0.062 (0.099)	-0.006 (0.043)	0.093 (0.135)
NWC	-0.004 (0.021)	0.085 (0.070)	-0.070 (0.088)	0.002 (0.005)	-0.403* (0.224)	-0.103 (0.245)	0.222* (0.127)	-0.051 (0.368)
SWE_FTE	-0.167 (0.381)	3.222*** (1.206)	0.509 (1.294)	0.017 (0.132)	1.358 (4.449)	6.754 (4.389)	-3.845* (2.317)	18.543** (7.103)
FTE_GRO	-4.203*** (0.899)	6.324** (2.450)	4.970 (3.019)	-0.091 (0.470)	11.886 (13.011)	-13.496 (26.645)	-1.577 (2.945)	72.749** (32.045)
GENDER	0.972 (0.760)	6.134*** (2.065)	-0.928 (2.313)	-0.296 (0.333)	-20.638** (9.284)	15.793 (10.004)	2.914 (4.065)	30.578* (16.764)
FOL_FTE	-0.010** (0.005)	-0.009 (0.016)	0.013 (0.016)	0.004 (0.003)	0.093 (0.061)	-0.139 (0.088)	-0.028 (0.026)	0.246 (0.211)
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES
Ownership FE	YES	YES	YES	YES	YES	YES	YES	YES
N	250	250	250	250	250	250	250	250
R ²	0.267	0.151	0.358	0.305	0.359	0.382	0.244	0.206

Note: The table shows the summarized output from the regressions for the consolidated data using VOT_FTE as the independent variable. The predicted β coefficient is provided with the robust standard error in parenthesis below. *** p < 0.01, ** p < 0.05 and * p < 0.10.

Appendix G: Mann-Whitney U tests using the top 3 organizations

	Not Visible	Visible	Z	Prob > z
	Mean (n = 3)	Mean (n = 3)		
MED_TEN	(n = 3)	(n = 3)		
Business	4.67	3.23	1.091	0.275
MSc Engineering	3.47	3.50	0.218	0.827
IT	3.93	3.00	0.000	1.000
CEO_TEN	(n = 3)	(n = 3)		
Business	5.17	9.83	-1.528	0.127
MSc Engineering	4.75	8.33	-0.443	0.658
IT	9.50	8.33	0.218	0.827
PRE_SCH	(n = 3)	(n = 3)		
Business	10.13	11.35	-0.218	0.827
MSc Engineering	3.84	11.53	-1.528	0.127
IT	11.00	13.42	-1.091	0.275
CEO_SAL	(n = 3)	(n = 3)		
Business	0.16	0.21	-0.218	0.827
MSc Engineering	0.07	0.18	-0.218	0.827
IT	0.22	0.19	0.218	0.827
COS_EMP	(n = 3)	(n = 3)		
Business	23.95	38.25	-0.655	0.513
MSc Engineering	7.84	29.60	-1.091	0.275
IT	23.25	28.76	0.218	0.827
EBIT_MAR	(n = 3)	(n = 3)		
Business	61.80	11.70	1.964	0.050
MSc Engineering	-26.27	5.10	-0.218	0.827
IT	-9.68	4.38	-0.218	0.827
REV_FTE	(n = 3)	(n = 3)		
Business	3.93	13.10	-1.091	0.275
MSc Engineering	17.95	14.24	0.655	0.513
IT	6.81	20.61	-1.528	0.127
INT_AST	(n = 3)	(n = 3)		
Business	19.49	0.18	1.993	0.046
MSc Engineering	33.33	5.36	0.443	0.658
IT	23.01	0.18	1.159	0.246

Note: The table presents all the summarized means (Mean) and number of observations (n) for the last twenty organizations visible on the ranking (position 81-100) as well as the following twenty organizations not visible in the 2021 rankings. The Z score (Z) and p-value (Prob > z) are the outcomes from the Mann-Whitney U test.

Appendix H: Consolidated OLS regression substituting REVENUE with FTE

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	MED_TEN	CEO_TEN	PRE_SCH	CEO_SAL	COS_EMP	EBIT_MAR	REV_FTE	INT_AST
Intercept	5.057*** (0.967)	-3.886 (2.619)	2.409 (2.873)	0.483 (0.455)	47.379*** (11.708)	-3.037 (15.190)	6.189 (5.155)	-38.132 (31.166)
VOT_FTE	-0.067 (0.116)	0.939 (0.838)	1.976** (0.958)	0.393*** (0.150)	3.267 (2.598)	4.406* (2.635)	1.574 (1.912)	-6.851* (3.871)
FTE	-0.041 (0.040)	-0.120 (0.098)	-0.237** (0.108)	-0.029*** (0.009)	0.147 (0.327)	-0.966*** (0.366)	-0.242 (0.162)	-0.393 (0.581)
GLO_FTE	-3.863** (1.611)	1.151 (6.429)	-3.835 (7.486)	-1.861*** (0.622)	-15.217 (15.139)	37.865** (16.198)	-0.460 (8.665)	-33.638* (17.096)
EBIT	0.057*** (0.019)	0.063* (0.035)	0.076* (0.042)	-0.006 (0.004)	-0.249 (0.155)	1.351*** (0.237)	0.014 (0.068)	0.514* (0.270)
TAN_AST	-0.008 (0.007)	-0.024* (0.014)	0.030* (0.015)	0.002 (0.001)	-0.077 (0.060)	0.009 (0.101)	0.034 (0.039)	0.091 (0.134)
NWC	-0.005 (0.023)	0.080 (0.068)	-0.082 (0.094)	0.001 (0.005)	-0.418* (0.221)	-0.165 (0.277)	0.222* (0.126)	-0.055 (0.364)
SWE_FTE	-0.197 (0.387)	3.340*** (1.231)	-0.488 (1.531)	0.036 (0.136)	1.289 (4.445)	6.937 (4.298)	-4.340* (2.387)	20.838*** (7.460)
FTE_GRO	-4.239*** (0.895)	6.404** (2.474)	3.530 (2.938)	-0.092 (0.454)	11.160 (13.157)	-14.716 (26.185)	-1.976 (2.932)	75.692** (32.936)
GENDER	1.094 (0.763)	6.166*** (2.054)	0.449 (2.375)	-0.289 (0.327)	-21.701** (9.224)	15.718 (10.060)	4.270 (4.154)	28.890* (16.414)
FOL_FTE	-0.010** (0.005)	-0.010 (0.016)	0.027 (0.020)	0.004 (0.003)	0.097 (0.061)	-0.132 (0.085)	-0.022 (0.027)	0.217 (0.206)
Industry adj.	YES	YES	YES	YES	YES	YES	YES	YES
Ownership adj.	YES	YES	YES	YES	YES	YES	YES	YES
N	250	250	250	250	250	250	250	250
R ²	0.262	0.153	0.22	0.307	0.35	0.365	0.206	0.199

Note: The table shows the summarized output from the regressions for the consolidated data using VOT_FTE as the independent variable. The predicted β coefficient is provided with the robust standard error in parenthesis below. *** p < 0.01, ** p < 0.05 and * p < 0.10.

Appendix I: Consolidated OLS regression based on the 2020 ranking

	(1) MED_TEN	(2) CEO_TEN	(3) PRE_SCH	(4) CEO_SAL	(5) COS_EMP	(6) EBIT_MAR	(7) REV_FTE	(8) INT_AST
Intercept	5.061*** (0.979)	-4.080 (2.688)	2.048 (2.986)	0.484 (0.466)	45.393*** (12.073)	-4.908 (15.786)	7.169 (5.286)	-37.707 (32.631)
VOT_FTE	-0.044 (0.081)	0.757 (0.627)	1.288* (0.663)	0.318*** (0.106)	2.654 (1.851)	3.158 (1.952)	0.883 (1.329)	-4.718* (2.653)
REVENUE	0.002 (0.004)	-0.006 (0.012)	-0.005 (0.011)	-0.003** (0.001)	-0.089** (0.041)	-0.162*** (0.049)	0.043 (0.031)	-0.010 (0.064)
GLO_FTE	-3.962** (1.594)	1.797 (6.252)	-3.261 (7.332)	-1.926*** (0.608)	-13.850 (15.074)	38.503** (16.062)	-0.094 (8.315)	-37.248** (17.481)
EBIT	0.045** (0.022)	0.058 (0.039)	0.040 (0.041)	-0.004 (0.005)	0.026 (0.206)	1.602*** (0.271)	-0.157 (0.124)	0.488 (0.299)
TAN_AST	-0.012* (0.007)	-0.027 (0.017)	0.022 (0.017)	0.002 (0.002)	-0.021 (0.062)	0.064 (0.099)	-0.002 (0.046)	0.067 (0.135)
NWC	-0.005 (0.021)	0.079 (0.069)	-0.078 (0.098)	0.002 (0.005)	-0.412* (0.226)	-0.105 (0.249)	0.221* (0.132)	-0.067 (0.379)
SWE_FTE	-0.232 (0.381)	3.310*** (1.205)	-0.764 (1.581)	0.009 (0.143)	2.126 (4.470)	6.267 (4.359)	-5.103** (2.517)	20.606*** (7.594)
FTE_GRO	-4.089*** (0.912)	6.240** (2.491)	3.864 (3.065)	-0.155 (0.458)	11.877 (13.329)	-15.655 (27.073)	-2.132 (2.955)	80.559** (33.976)
GENDER	1.227 (0.764)	6.675*** (2.054)	1.079 (2.388)	-0.270 (0.334)	-20.304** (9.587)	15.945 (10.595)	4.379 (4.262)	32.930* (17.501)
FOL_FTE	-0.009** (0.005)	-0.008 (0.016)	0.030 (0.021)	0.004 (0.002)	0.090 (0.059)	-0.124 (0.085)	-0.016 (0.025)	0.204 (0.200)
Industry adj.	YES	YES	YES	YES	YES	YES	YES	YES
Ownership adj.	YES	YES	YES	YES	YES	YES	YES	YES
N	245	245	245	245	245	245	245	245
R ²	0.259	0.157	0.202	0.324	0.358	0.381	0.212	0.208

Note: The table shows the summarized output from the regressions for the consolidated data using VOT_FTE as the independent variable. The predicted β coefficient is provided with the robust standard error in parenthesis below. *** p < 0.01, ** p < 0.05 and * p < 0.10.