



Diversity at the top: leveraging language for inclusion

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Abstract

This study explores how gendered job titles in Italian, particularly feminine forms used for leadership positions, are represented and perceived on social media like Twitter. While feminine titles align with Italian grammatical norms, they are often resisted in public discourse, especially in prestigious domains like firms and management. Drawing on feminist theories of language and institutional theory, we analysed Italian-language tweets from 2006 to 2022 to examine the prevalence and sentiment associated with gendered job titles. Our findings show that although masculine forms remain dominant, the use of feminine titles has grown over time, particularly for the role of entrepreneur. Sentiment analysis reveals that tweets using feminine titles, especially for women on Boards of Directors, are associated with more positive sentiment than their masculine counterparts. These results suggest that gender-fair language may contribute to more inclusive perceptions of leadership, though its adoption remains uneven across roles and regions.

Keywords Gender · Gender-fair language · Inclusion · Leadership position · NLP · Sentiment analysis · Twitter

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1 Introduction

The extent to which languages mark gender varies greatly: some, such as English, have a “pronominal gender system,” meaning they only mark gender on personal pronouns (Corbett, 1991). Stahlberg et al. (2001) label other languages, such as Italian, “grammatical gender languages” because they mark gender not only on personal pronouns but also on nouns and their agreement target, including articles, adjectives, and verbal forms. Therefore, gendered job titles are the norm in these languages, unlike in English, where only a few are.

Crucially, as observed by Aksenov (1984), gender assignment systems always have a semantic core. For instance, in Italian, nouns referring to men are typically (assigned a) masculine (gender), while nouns referring to women are usually (assigned a) feminine (gender). However, people frequently use prestigious job titles in the masculine form, even when referring to women.

Several feminist scholars criticized this practice for being unfair. Feminist theories of language developed, which hold that using the masculine also for women makes women invisible in discourse (see, e.g., Formato, 2019; Mills, 2008), eventually contributing to maintain and reinforce the gender power imbalance at the societal level (see, e.g., Eckert & McConnell-Ginet, 2013). More recently, empirical studies corroborated this theory (see Gygax et al., 2021; Sczesny et al., 2016). In particular, several studies revealed that the masculine form is less likely to be associated with women, influencing the cognitive representation of women’s societal roles (Gygax et al., 2008).

Institutional theory examines the relationship between society and organizational structure, with substantial implications for entrepreneurship and management (Atinc et al., 2022; Hechavarría et al., 2018; Liu et al., 2024; Tang et al., 2021; Williams & Ceci, 2015). Institutional theory offers a macro-level viewpoint on the impact of societal norms and institutional frameworks on organizational structures and behaviors (Hechavarría et al., 2018; Liu et al., 2024). In this context, language serves as both a mirror and an instrument for sustaining institutional norms. While institutional theory offers essential knowledge about the societal influences on organizational language, it frequently neglects the distinct function of language. Language, as a vehicle for expressing and reinforcing societal norms (see Eckert & McConnell-Ginet, 2013), plays a crucial role in shaping organisational perceptions and behaviours.

This paper examines how gendered language in job titles influences perceptions of leadership and representation, particularly in governance structures. Our analysis highlights the performative role of language in perpetuating or challenging gender biases, with a specific focus on the implications of using gender-fair language. This study draws on feminist theories of language and institutional theory to explore how gendered job titles reflect and reinforce societal norms, organizational practices, and leadership ideals. By focusing on the linguistic structures that frame leadership roles, we aim to contribute to the growing literature on gender and governance (see, e.g., Hechavarría et al., 2018; Hentschel et al., 2018). While our findings do not test causal relationships, they provide helpful details about how language shapes organizational realities and propose avenues for further research.

Given this background, it is crucial to have up-to-date and reliable data on using masculine and feminine job titles in grammatical gender languages. Research on gen-

der biases and stereotypes in natural language processing focuses on assessing the performance of models concerning gender-specific data or, more specifically, on how gender affects how language models represent specific ideas (Sun et al., 2019).

Social networks are a fruitful source of data where information is produced by individuals who express their opinions online, frequently with others they do not know (Aladwani & Dwivedi, 2018; Kizgin et al., 2020; Zimbra et al., 2018). In particular, Twitter has emerged as a valuable asset for gathering data on public sentiment via Social Opinion Mining (Adler et al., 2023; Ayman et al., 2019; Lepore et al., 2023). The increasing number of individuals participating in social media allows for examining online material to explain the shifts in people's mindsets, actions, and psychological states (Alamoodi et al., 2021). Therefore, using Twitter data for analysis has gained significant popularity (Adler et al., 2023; Ayman et al., 2019; Lepore et al., 2023).

Based on these premises, this study analyzed the distribution of a reasoned sample of feminine and masculine titles for leadership positions in tweets written in Italian from 2006 to 2021. In the Italian context¹, the only study to date that analyzed the use of job titles in tweets is Cignarella et al. (2021). In particular, we analyzed the Italian feminine terms *imprenditrice* (entrepreneur), *direttrice* (director), *amministratrice* (administrator), and *la CEO* ([the] CEO). We investigated the extent to which these terms are widespread and whether they elicit an emotionally laden, positive or negative, attitude compared to their masculine counterparts. To examine whether a polarized tone accompanied feminine job titles, we used a sentiment analysis technique applied to the tweets.

The results indicate a predominant use of the masculine over the feminine form for the analyzed professional terms, with a gradual increase in the use of the feminine in some cases, such as for the roles of administrator and entrepreneur, but not for CEO. In addition, tweets containing female job titles, especially for positions on boards of directors, tend to receive more positive sentiment than those using the male form for the term entrepreneur. These findings emphasize the necessity of promoting inclusive language to foster gender equality.

The remainder of the article unfolds as follows. First, we discuss our theoretical foundations. Next, we describe the research design and data and describe our empirical findings. We conclude by highlighting our study's contributions, implications, and limitations.

2 Theoretical background

The crucial premise of work is the complex dynamic between society, organizational structure, and organizations' performance. Institutional theory explores the relationship between society and organizational structure and holds significant potential in the fields

¹ This study surveyed the use of a broad range of job titles, such as *ministro/ministra* (minister) *sindaco/sindaca*, (mayor), *rettore/retrice* (rector), *ingegnere/ingegnera* (engineer), and *avvocato/avvocata/avvocata*, (lawyer). Our study, instead, focuses more specifically on leadership positions, which were not included in Cignarella et al. (2021) analyses.

of entrepreneurship and management (Atinc et al., 2022; Hechavarría et al., 2018; Liu et al., 2024; Tang et al., 2021; Willmott, 2015). Institutional theory provides a macro-level perspective on how societal norms and institutional frameworks influence organizational structures and behaviors (Hechavarría et al., 2018; Liu et al., 2024). Within this framework, language acts as both a reflection of and a tool for reinforcing institutional norms. Yet, institutional theory provides helpful information about the societal factors shaping organizational language; it often overlooks the specific role of language itself. By integrating feminist linguistic theory, the present study addresses this gap and examines how language influences institutional practices and norms.

Feminist theories of language posit that language not only reflects but also actively shapes social reality. Language is not simply a passive means through which we express ourselves but can and is constantly used to modify reality: as John Austin (1962) famously showed, we do things with our words. Language and deeds do not belong to separate worlds but are strictly connected. We describe what we do with language, but we also perform actions through what we say. Moreover, language directs our attention toward certain aspects, making them salient, and away from others, making them more difficult to notice (Deutscher, 2010; Slobin, 1996). The pervasiveness of language in our society makes it a central element of social reality, which can contribute to its endurance or change. From this perspective, our primary interest concerns the effect of gendered language on organizations and leadership.

Gender is, indeed, a social categorization that gets reflected in language. This is especially so in grammatical gender languages (Stahlberg et al., 2007), like Italian, where gender is pervasively expressed in grammar. Such gendered structures force speakers to stress gender differences, which results in a tendency to make differences between men and women stand out more in their words, phrases, and conversations (Beblo et al., 2020). Crucially, gender is expressed asymmetrically in these languages. Specifically, these languages typically use masculine terms for leadership roles, even when referring to women. Feminist linguistic scholarship targeted such asymmetric uses, arguing that they contribute to perpetuate gender inequalities (see, e.g., Eckert & McConnell-Ginet, 2013).

Language and society mutually influence each other, creating a self-reinforcing cycle in a looping way, as highlighted by feminist scholar Sally Haslanger (2014). On the one hand, language reflects the social structure of a specific community, and, on the other, it influences its speakers, reinforcing that very same structure. As the institutional scholar North (2005), “the fundamental building blocks of a culture begin with language whose categories and vocabulary reflect the cumulative experience of a society.”

Language becomes particularly relevant in entrepreneurship and management because it shapes how individuals understand and make decisions (Falkheimer, 2014; North, 2005). Linguistic structures influenced by gender play a role in establishing and upholding structural disparities within society, impacting various aspects such as management and entrepreneurial dynamics as well as the composition of corporate boards.

Although institutional theory often overlooks the role of language (Hechavarría et al., 2018), previous research has shown that disparities in entrepreneurship and management dynamics may be closely linked to language structures (Di Pietro et al., 2023) and that differences in cognitive patterns, like those involved in making decisions about starting

a business, may be affected by the way language is structured (Hechavarría et al., 2018; Nothhaft, 2010).

In particular, using masculine forms for women holding high-status job titles reinforces stereotypes that those holding leadership positions (e.g., entrepreneurs, BoD members, and administrators) are men (Bohren et al., 2019; Bordalo et al., 2016; Carlana, 2019; Coffman, 2014; Dutt et al., 2016; Giusta & Bosworth, 2020; Shambaugh, 2008; Wu, 2018). Extensive psycholinguistic empirical literature supports this point by showing that masculine terms make people think about men, and this has concrete effects (see Gygax et al., 2021; Sczesny et al., 2016).² For instance, Stahlberg et al. (2001) found that respondents were likelier to list men than women if a question was posed in the masculine. Such findings can lead to unconscious biases in recruitment, promotion, and decision-making processes, limiting women's access to leadership positions (e.g., Horvath and Sczesny (2016) on the effect of gendered language on recruitment).

On the contrary, when gender-neutral language is used, people are less likely to hold gender-based biases regarding specific careers and roles (Lambrecht & Tucker, 2019; Mavisakalyan, 2015). Even more, the use of gender-fair language, such as feminine job titles, can help counter these biases: specific experiments showed that women are more interested in entrepreneurship programs (Alesina et al., 2018; Hentschel et al., 2018) and children, regardless of gender, in job positions (Vervecken et al., 2013; Vervecken & Hannover, 2015) when these are advertised also using feminine professional titles. Moreover, women are evaluated as fitter for a high-prestige position if it is described with feminine terms (Horvath & Sczesny, 2016). Gender-fair language further makes women visible (e.g., Stahlberg et al., 2001).

These studies, thus, corroborate feminist theories of language by showing that gender-fair language seems to lower the unconscious obstacles that prevent women from applying to and being considered fit for sure, traditionally masculine, jobs (Hentschel et al., 2018; Horvath & Sczesny, 2016). Such empirical results further support the solution proposed by several feminist scholars: they further indicate that gender-fair language, by enhancing women's visibility, could make it easier for women to be considered for leadership roles. This, in turn, may foster a more gender diverse and inclusive organization. Hence, gender-fair language helps reduce gender bias and increase the presence of women in leadership positions (Hechavarría et al., 2018). As discussed above, this diversity not only improves corporate governance but also aids in dismantling structural barriers in entrepreneurship and management, thereby promoting broader societal change (Bannò et al., 2024).

These points show that using gender-neutral language and, more specifically, using feminine job titles to talk about women in top positions in both internal and external communications can be helpful (Ravazzani et al., 2021). Making external

² It is important to point out that empirical studies in the field of psychology have, in general, several limitations. Indeed, they typically involve a relatively small number of participants, and their setting differs from everyday life, thus reducing their external validity. Although the mentioned studies share these general limitations of cognitive science experiments, they nonetheless provide an intriguing perspective on the issue. Moreover, a vast number of studies conducted over a long period of time and with various methodologies have found quite robust results on the effects of masculine terminology, thus increasing the reliability of these findings.

communication gender-fair serves to attract more women towards the firm as well as to communicate the virtuous actions of the firm effectively and to work as a catalyst of change (Hentschel et al., 2018). Internal gender-fair communication, instead, has the function of reducing the barriers to women's participation and especially to their promotions within the firm: on the one hand, it doesn't elicit the psychological effects responsible for the self-exclusion of women from, e.g., running for a promotion; on the other, it makes it easier for the others to think about a woman for a job proposal or a promotion (Hentschel et al., 2018). Organizations can foster a culture that promotes inclusivity and equality in business management by addressing the linguistic framing of job titles.

To recap, language and social reality mutually influence each other, and this relation is especially relevant for entrepreneurship and management, as it points at a mechanism that can reinforce or challenge institutionalized norms. Against this background, the present study addresses how the asymmetrical expression of gender in language impacts organizations.

3 Gender and language structure in the Italian context

As Formato (2019) highlighted, Italy is an especially compelling case for studying the evolution and effect of gender norms given its history and the endurance of explicit patriarchal norms. This specificity is matched by the Italian language, which marks gender pervasively. We thus focused on this context to explore the role of language in reinforcing or challenging current power structures and stereotypes, as hypothesized in feminist linguistic scholarship.

As shown in the previous section, a growing body of empirical studies corroborates feminist theories of language, showing how using the masculine hinders women's presence while using gender-fair alternatives facilitates it. This alone provides excellent reasons to opt for feminine titles when discussing women. Moreover, this choice aligns with the general correspondence between the grammatical gender of an Italian term and the gender of its human referent: typically, Italian feminine words are used for female referents and masculine ones for male referents.³ Crucially, employing masculine titles for women, constituting a linguistic exception, is an asymmetric practice: men are always addressed with masculine terms, even if they fulfil traditionally feminine roles; no one would call a male nurse or midwife a feminine *infermiera* (nurse) or *ostetrica* (midwife).⁴

³ There are a handful of nouns that only occur in one gender due to linguistic reasons: e.g., *personaggio* (character) is masculine, and *guida* (guide) is feminine regardless of the gender of their referent. The former is a loanword and the latter a meaning extension, and they owe their gender, respectively, to the foreign term and the primitive word they derive from. That is, these exceptions to the norm are linguistically (rather than socially) motivated.

⁴ Sara Mills reports this interesting case from Pauwels (1998) concerning German: *Die Hebamme* used to be the word for midwife. The term *Entbindungspfleger* replaced *Die Hebamme* when men started working as midwives. For women to refer to themselves as midwives, they had to add a feminine affix to the word, making for the much more unwieldy and masculine-derived *Entbindungspflegerin*.

In most cases, feminine titles are already present in the Italian lexicon, although they are used with a different meaning. For instance, the masculine noun *segretario* means party leader and clerk in Italian. Its grammatically feminine counterpart, *segretaria*, is commonly used for designing female clerks, and there is no impediment to use it, like the masculine, for party leaders too. Therefore, using the available term is sufficient to address female party leaders correctly.

Sometimes, the feminine form of a job title is not correctly used, leading some speakers to have never heard it and to be unclear about the correct version, which can result in the spread of forms of the same word. For instance, both *la presidente* and *la presidentessa* (the president) are used in Italian. In all these cases, the speaker should simply appeal to the standard morphological rules for deriving a feminine term from a masculine one.⁵ Indeed, languages possess productive rules that enable speakers to create new words when needed. The rules for deriving the feminine term are as follows: their usefulness is precisely to form a novel feminine word from an existing masculine one to accommodate the need for such a term. For example, when a woman occupies a role traditionally held exclusively by men, the need for a feminine term to designate that position naturally emerges. These rules enable speakers to satisfy this need by allowing them to produce the feminine form of any masculine word.

In particular, Italian nouns ending in “-tore” in the masculine form have feminine counterparts ending in “-trice”. Following this rule, we know that the correct form to talk about a woman administrator is *amministratrice*, its masculine counterpart being *amministratore*. By the same token, a woman director is *direttrice* and a woman entrepreneur is *imprenditrice*, whose masculine counterparts are *direttore* and *imprenditore*. Nouns that end with “-e”, but not with “-ere”⁶ or “-tore” or “-sore”, are invariable, as well as loan words like CEO: a female Chief Executive Officer is *la CEO* and a male one is *il CEO*, so the two forms differ in the article (and other possible elements agreeing with the noun).

Thus, using feminine job titles often simply amounts to employing nouns that already belong to the Italian lexicon. In other cases, we must establish the feminine job title by applying the productive rules for deriving feminine forms.

To sum up, feminine job titles conform to the grammatical norms of Italian personal nouns. Instead, the use of masculine forms to address women not only displays an unusual mismatch between a term and its referent’s gender but is also asymmetric and elicits undesirable psychological effects, as shown by the various experiments

⁵ For an overview of all the formation rules of feminine forms, see, among others, Robustelli (2014), Marcato and Thüne (2002) and the entry *femminile* (feminine) in the column *la parola del giorno* (the word of the day) on the website <https://dizionaripiu.zanichelli.it>.

⁶ Italian nouns ending in “-ere” in the masculine have feminine counterparts ending in “-era”. Thus, given that the Italian word for a male engineer is *ingegnere*, the corresponding one for a woman carrying out the same job is *ingegnera*. The nouns that end with “-ente” or “-ante”, instead, are invariable for gender. *Presidente* (president) belongs to this group, so the feminine form is identical to the masculine one, and the correct way to address a female president is *la presidente* (the president, with the feminine article) and not *la presidentessa*. The latter form should be avoided not merely because it is incorrect, but also because it employs the problematic suffix “-essa”. See Sabatini (1987) for a discussion about why “-essa” is problematic and should be avoided. In particular, Sabatini focuses on its originary derogatory connotation, while Frati on the fact that the feminine terms in “-essa” used to indicate the wife of a man in a specific role rather than a woman fulfilling the same role.

mentioned in the previous section. Given this background, it might seem surprising that using feminine job titles is still widely resisted. One reason many people hesitate to adopt feminine job titles, whether for themselves or others, is that masculine terms typically carry more positive associations than their feminine counterparts (see, e.g., Moulton (1981)).⁷ For this reason, we believe it would be interesting to explore whether feminine job titles elicit negative reactions.

Therefore, the goal of this study is to rely on Twitter to explore the evolution of feminine terms referring to leadership positions. To achieve this goal, we investigated the diachronic trend of and the public attitude (i.e., the sentiment) towards *amministratrice* (administrator), *la CEO*, *direttrice* (director), and *imprenditrice* (entrepreneur) concerning their masculine counterparts (*amministratore*, *il CEO*, *direttore*, and *imprenditore*, respectively).

4 Empirical analysis

Figure 1 provides an overview of the data collection and analysis workflow using Twitter as the primary source (Leggerini et al. 2025). The process begins with data collection (Steps 1 and 2), which was carried out using Twitter's search APIs through the Python library *TWARC2*. The data collection criteria included: selection of spe-

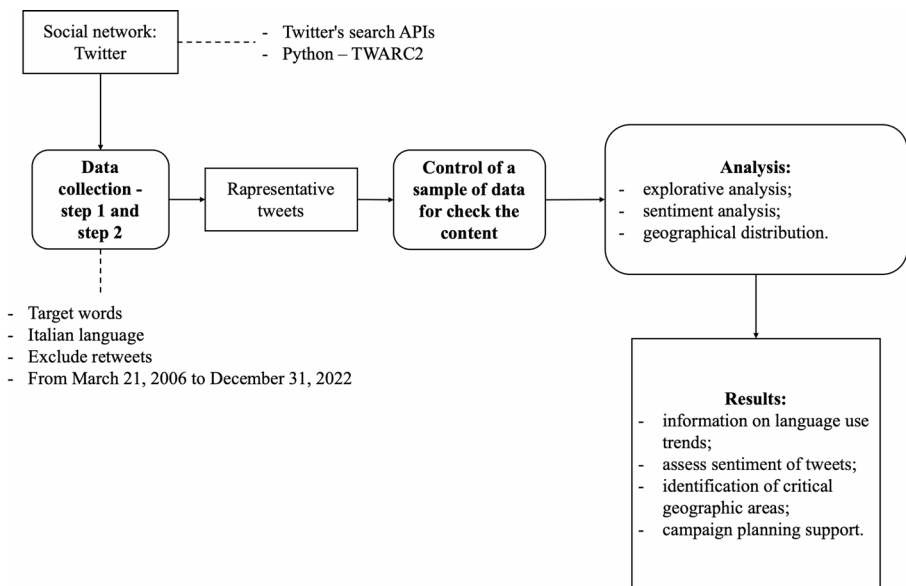


Fig. 1 Overview of the workflow for data collection and analysis. Source: personal elaboration

⁷ Moulton imputes this fact to the marked character of feminine words, that is, to the fact that feminine terms, unlike masculine ones, can only be used to denote females. Indeed, as she points out, “the unmarked term of a pair of opposites has higher positive associations. The use of a marked term often has a pejorative tone.” (1981: 129). See Schulz (1990) for an in-depth investigation of the mechanisms behind derogating feminine terms.

cific target words, restriction to tweets in Italian, exclusion of retweets, and a time frame spanning from March 21, 2006, to December 31, 2022. The collected dataset was then refined by identifying a set of representative tweets, followed by a manual quality check on a sample of the data to validate the relevance and appropriateness of the content. Once validated, the dataset was subjected to three main types of analysis: explorative analysis, sentiment analysis, and geographical distribution. This procedure produced results that contribute to understanding language use trends, assessing the overall sentiment expressed in the tweets, identifying critical geographic areas for targeted intervention, and providing potential insights for planning awareness campaigns.

The subsequent sections of the manuscript provide a more detailed explanation of each step.

4.1 Data collection

To investigate the role of gender-fair language in business and management, we analyzed the extent to which feminine terms referring to leadership positions are widespread and whether they elicit an emotionally laden, positive or negative, attitude compared to their masculine counterparts.

Recently, Twitter has become a valuable resource for obtaining data on public opinion through the analysis of social opinion mining, thanks to the extensive availability of data and the ease of access through Twitter's search APIs (Graziano & Vicentini, 2019). These APIs allow for setting specific search criteria such as keywords, geographic locations, creation dates, and usernames, making data extraction for research purposes much more straightforward (Cortis & Davis, 2021; Pang & Lee, 2008; Sharifi & Shokouhyar, 2021). Social Opinions Mining focuses on extracting thoughts, emotions, and attitudes from user-generated content online using techniques such as sentiment analysis, topic modelling, and emotion recognition (Cortis & Davis, 2021; Greenhalgh, 2019; Wang et al., 2022).

In particular, following the procedure for obtaining relevant tweets established in the literature (Chae, 2015; Cignarella et al., 2021; Müller-Hansen et al., 2022), we analysed the terms related to leadership positions: entrepreneurs, administrators, CEOs, and directors. We used morphological criteria such as the difference in suffixes between feminine and masculine words and the different masculine-feminine articles that can precede the noun to select the words to study (Cignarella et al., 2021).

We considered the words:

- ending in $-tore_{MASC}/-trice_{FEM}$:

imprenditore/imprenditrice (entrepreneur);

direttore/direttrice (director);

amministratore/ amministratrice (administrator).

- using the definite article il_{MASC}/la_{FEM} to identify gender:

il CEO/la CEO (CEO).

Python and *TWARC2* were used to extract data from Twitter containing the target words (Müller-Hansen et al., 2022; Leggerini et al. 2025). Following the literature, we focused on tweets written in the Italian language (Cignarella et al., 2021; Marchi et al., 2022; Leggerini et al. 2025), to exclude retweets because they don't add meaning (Barbeito-Caamaño & Chalmeta, 2020), and to consider as a time frame the period from March 21, 2006 (when the first tweet in history was executed) to December 31, 2022.

Initially (step 1), we download all tweets that included the following keywords: *imprenditore*, *imprenditrice*, *amministratore*, *amministratrice*, *il CEO*, *la CEO*, *direttore* and *direttrice*. However, the resulting dataset contained many tweets that were not relevant to the research (e.g., *amministratore/amministratrice*, administrator, was also found in tweets concerning building administrators, *amministratore di condominio* in Italian). As shown in Table 1, the initial results were only accurate for the terms *imprenditore* and *imprenditrice*.

As a result, we modified the research methodology (step 2): instead of extracting tweets containing a single keyword, we used a combination of terms, which were generally used to identify and narrow down the desired search field (i.e., firm environment), in a more in-depth extraction. The search keys used are shown in Table 2. We combined the terms related to positions with those associated with the firm environment. For the words *imprenditore* and *imprenditrice*, the single-keyword search yielded better results. Instead, we proceeded by subtraction, eliminating tweets containing the word *digitale* (digital).

This procedure is typically used in literature to obtain topic-related tweets (Marchi et al., 2022; Schallehn & Valogianni, 2022). To ensure that the final sample of tweets is clean of the noise encountered from the first download, an additional sample of data was downloaded for manual analysis; this sample was found to be relevant to the purpose of the research and related to the firm's environment. This process made it

Table 1 Number of tweets extracted with the single (Step 1) and multiple keywords (Step 2) methods from March 21, 2006 (when the first tweet in history was executed) to December 31, 2022. Source: personal elaboration

	Step 1 - Number of tweets, single word research	% of good tweets, first research	Step 2 - Number of tweets, second research	% of tweets (2)/(1)
<i>Imprenditore</i> ("Man entrepreneur")	641,818	-	624,217	97.26%
<i>Imprenditrice</i> ("Woman entrepreneur")	59,097	-	51,785	87.63%
<i>Direttore</i> ("Man director")	2,104,964	20%	198,259	9.42%
<i>Direttrice</i> ("Woman director")	133,801	11%	5,808	4.34%
<i>Amministratore</i> ("Man administrator")	311,126	38%	115,310	37.06%
<i>Amministratrice</i> ("Woman administrator")	29,479	13%	1,442	4.89%
<i>Il CEO</i> ("Man CEO")	95,010	15%	8,451	8.89%
<i>La CEO</i> ("Woman CEO")	3,319	10%	190	5.72%

Table 2 Keywords used for director, administrator and CEO. Source: personal elaboration

Leadership Positions	Words related to the firm environment
<i>Direttore</i> (“Man director”)	<i>Generale, azienda, aziende, aziendale, impresa, imprese, CDA, board, consiglio amministrazione, consigli amministrazione, società, business.</i>
<i>Direttrice</i> (“Woman director”)	
<i>Amministratore</i> (“Man administrator”)	“General, company, companies, corporate, enterprise, enterprises, BoD, board, board of directors, boards of directors, Corporation, business”
<i>Amministratrice</i> (“Woman administrator”)	
<i>Il CEO</i> (“Man CEO”)	
<i>La CEO</i> (“Woman CEO”)	

possible to improve the accuracy of the search, as can be appreciated by the number of tweets for steps 1 and 2 presented in Results Table 1. Also in APPENDIX 1, we provide some examples of tweets that make up the final sample under study.

5 Method

5.1 Exploratory analyses

We started with some exploratory analyses, studying the number of tweets and the trend for the various professions (Barbeito-Caamaño & Chalmeta, 2020; Müller-Hansen et al., 2022; Leggerini et al. 2025).

5.2 Sentiment analysis

We then used sentiment analysis to classify the tweets as positive or negative. We performed sentiment analysis directly on Italian text. We employed FEEL-IT, a BERT-based architecture model (Roccabruna et al., 2022). FEEL-IT is a sentiment classifier originating from UmBERTo; it was pre-trained on Commoncrawl ITA, a corpus not related to social media, and inherits the architecture from RoBERTa (Bellodi et al., 2022). The model was then trained again by utilizing the FEEL-IT corpus, which was labeled with four non-neutral emotions: anger, fear, joy, and sadness (Ekman, 1992). Joy is associated with the positive class, while anger, fear, and sadness are associated with the negative class⁸. The model applied to Italian text categorizes tweets into positive and negative, excluding the neutral class. Before using the sentiment analysis algorithm, the text of the tweets was cleaned, and symbols that could cause issues for the sentiment algorithm⁹ were deleted.

To compare the difference in tweet sentiment depending on the grammatical gender in which the different job titles (entrepreneur and BoD’s positions) were used, we calculated

⁸ The authors created the FEEL-IT corpus by manually classifying 1000 tweets collected from August 20 to October 12 2020 (Bianchi et al., 2021).

⁹ We eliminated URLs, anonymised mentions (replacing @specific_author_name with @user), eliminated symbols such as “\n”, “\nn”, “@”, “-”, “_”, “\.”, “/”, “#”, “&”, “amp”, and eliminated any double spaces present in the text.

the positive comparative advantage index (Hoen & Oosterhaven, 2006), defined as follows (1):

$$\text{Positive comparative advantage index} = \frac{\frac{N_{p-s}}{N_{p/n-s}}}{\frac{N_{p-t}}{N_{p/n-t}}} \quad (1)$$

where:

N_{p-s} = Number of positive tweets containing a specific feminine or masculine job title;

$N_{p/n-s}$ = Number of positive and negative tweets containing a specific feminine or masculine job title;

N_{p-t} = Number of total positive tweets concerning all four considered job titles;

$N_{p/n-t}$ = Number of total positive and negative tweets relating to all four considered job titles.

A value greater than 1 indicates a more positive attitude toward the specific keyword under consideration than the other part of Italy; a value less than 1 indicates a more negative attitude.

We also calculated positive comparative advantage index for masculine and feminine keywords for each of the two categories (entrepreneur and BoD).

The proportion test compares two observed proportions from independent samples to determine whether the difference between them is statistically significant. For each group (e.g., male and female), we define (Moore et al., 2021):

p_1 : Proportion observed in the first group (e.g., male title) (2).

p_2 : Proportion observed in the second group (e.g., female title) (2).

The proportions are calculated as:

$$p_1 = \frac{x_1}{n_1}, \quad p_2 = \frac{x_2}{n_2} \quad (2)$$

Where:

x_1 and x_2 : Number of events of interest (e.g., positive tweets) in the two groups, respectively.

n_1 and n_2 : Total number of observations in the two groups (e.g., total number of tweets).

The combined proportion (p) aggregates the successes of both groups (3):

$$p = \frac{x_1 + x_2}{n_1 + n_2} \quad (3)$$

The standard error (SE) of the difference between the observed proportions is given by (4):

$$SE = \sqrt{p(1-p) \left(\frac{1}{n_1} + \frac{1}{n_2} \right)} \quad (4)$$

Statistics z measures the difference between the observed proportions from the standard error (5):

$$z = \frac{p_1 - p_2}{SE} \quad (5)$$

The value p is calculated from the standard normal distribution and represents the probability of observing a difference equal to or more extreme than the observed difference, assuming the null hypothesis is true (6):

$$p - \text{value} = 2 \cdot P(Z > |z|) \quad (6)$$

To assess diachronic changes in public perceptions of masculine and feminine terms, we analyzed the percentage of positive and negative tweets from a historical perspective (Schallehn & Valogianni, 2022).

In addition, an analysis was conducted on the tweets containing the masculine entrepreneur referring to female entrepreneurs collected over three months (October, November, and December 2021) to explore gendered communication patterns in professional contexts. This study focuses on understanding how language is used when addressing women in professional settings. In particular, an in-depth examination of tweets containing feminine job titles was carried out, identifying the names of female entrepreneurs mentioned in the female entrepreneur sample. We then employed these names to extract tweets from the masculine entrepreneur sample referring to these female entrepreneurs with the masculine job title. The sentiment of the resulting samples was analyzed to provide a direct comparison between masculine and feminine tweets concerning the same individuals: any difference between the two sub-corpora would be linked to a linguistic choice rather than a difference in, e.g., the individuals referred to in the tweets.

5.3 Geographical distribution

To gather a relevant data sample for a localized Italian study, we selected tweets published in Italy, starting from 2014 (i.e., the first year with an appropriate number of tweets). To perform such a selection, we utilized the author's location data, which indicates the user's location responsible for the tweet (Nguyen et al., 2018). To streamline the geolocation process, tweets with empty or "nan" entries in the "author.location" field were excluded (Nguyen et al., 2018).

6 Results

6.1 Exploratory analysis

The selection process was divided into two steps to obtain a meaningful sample of tweets as anticipated in Sect. 3.1. The following results are shown in Table 1:

- the total number of tweets obtained by using a single word search (Step 1);
- the percentage of tweets extracted with a single keyword that were consistent with the

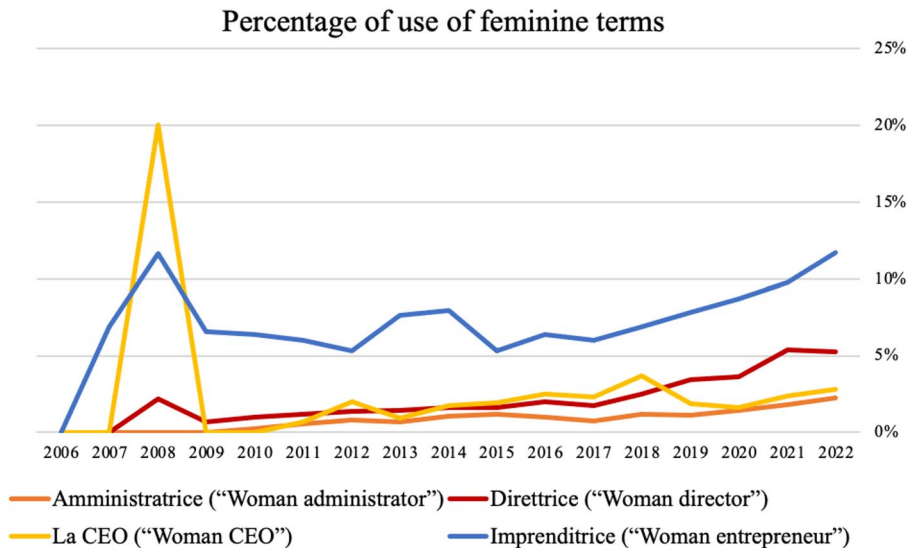
- research objective, based on the manual analysis of a sample of the dataset;
- the total number of tweets obtained in the in-depth extraction (Step 2);
- the percentage of tweets from the in-depth extraction compared to the single keyword extraction.

Notice that the percentage of good tweets extracted with the in-depth method relative to the total is analogous to the percentage found in the manually cleaned sample; this indicates that the in-depth method used is adequate.

The first tweet published on Twitter dates back to 2006. At that time, social networks were not widely used, so the results before 2011 are not statistically significant. In Graph 1, we can appreciate the percentage of tweets in the feminine (i.e., containing the terms *imprenditrice*, *amministratrice*, *direttrice*, and *la CEO*) out of the total number of tweets (i.e., both those containing the masculine and those containing the feminine) for each job title. Results for 2008, particularly for the term *CEO* strongly deviate from the average trend. However, this deviation may be influenced by the small sample size for that year. In particular, only 5 tweets containing *CEO* were extracted for 2008. Hence, a single tweet containing the feminine expression *la CEO* amounts to 20% of the total.

Leaving aside the trend in the early years, we report, except for the years between 2013 and 2015, a steady increase in the use of the feminine forms, which reached a quota of almost 12% in 2022.

Starting from 2010, there has been a general increase in the use of the terms studied over the years. However, while the rise of *amministratrice* and *direttrice* is almost constant and continuous, the use of *la CEO* is more discontinuous. We also report how, as of 2022, *imprenditrice* is the most common among the feminine terms considered:



Graph 1 Percentage of use of feminine terms: *imprenditrice*, *amministratrice*, *direttrice* and *la CEO*. Source: personal elaboration

- the term *amministratrice* reached a value equal to 2.2%;
- the term *direttrice* reached a value equal to 5.2%;
- the term *la CEO* reached a value equal to 2.8%;
- the term *imprenditrice* reached a value equal to 11.72%.

This increase could be related to a growing awareness of the importance of inclusive language and gender representation. This trend's constancy (except for some variations between 2013 and 2015) could indicate a gradual but sustained cultural change.

To support and give more significance to the analysis conducted, it is also interesting to take into account the actual number of men and women in leadership positions: in this way, we could determine whether the increased use of the feminine simply reflects a higher number of women in leadership positions or whether, on the contrary, the change in language use is not solely attributable to a greater female presence and it further depends on other factors. In 2021, out of more than 4.8 million entrepreneurs working in Italy, 30.0% of them were women entrepreneurs. Compared to 2015, when the percentage of women was 29.1%, the value increased, although slightly (+0.9%) (ISTAT, 2024). Thanks to the BoardEx database, it was possible to conduct this comparison for board members in Italy. In 2015, the average percentage of women on boards was 24%, whereas by 2021, this figure had increased to 32% (+8%), reflecting a positive trend toward greater gender diversity in firm governance. This positive trend in Italy could be attributed to the Golfo-Mosca Law, as data on board characteristics for firms is primarily available for medium and large firms, which are more likely to be subject to this regulation (Bannò et al., 2024).

6.2 Sentiment analysis

Table 3 presents data on the sentiment analysis of tweets for specific search terms. The data shows that most extracted tweets are negative, with 670.573 negative tweets compared to 334.889 positive tweets. This highlights the general perception and sentiment towards fields denoted by the searched words on social media. Conversations on social

Table 3 Number of positive and negative tweets and positive comparative advantage index for each masculine or feminine keyword. Source: personal elaboration

	Number of positive tweets	Number of negative tweets	Positive comparative advantage index
<i>Imprenditore</i> ("Man entrepreneur")	142,687	481,530	0.93
<i>Imprenditrice</i> ("Woman entrepreneur")	22,913	28,872	1.81
Total	165,600	510,402	
<i>Direttore</i> ("Man director")	103,371	94,888	1.01
<i>Direttrice</i> ("Woman director")	3,492	2,316	1.17
<i>Amministratore</i> ("Man administrator")	58,123	57,187	0.98
<i>Amministratrice</i> ("Woman administrator")	687	755	0.93
<i>Il CEO</i> ("Man CEO")	3,509	4,942	0.81
<i>La CEO</i> ("Woman CEO")	107	83	1.10
Total	69,289	160,171	

media regarding leadership and entrepreneurial roles are often critical or characterized by polemical tones. This trend may reflect a general distrust or dissatisfaction with business and management, regardless of gender.

Among the searched words, some, such as *imprenditore* and *imprenditrice*, stand out as having an overwhelmingly negative associated sentiment. However, it is worth noting that the gap between positive and negative tweets narrows for the term *imprenditrice*, with 22.913 positive tweets and 28.872 negative tweets. This may suggest a shift in the public perception and sentiment towards this term, potentially due to the increasing representation and recognition of businesswomen in the professional world.

Tweets concerning positions in the BoD are negative for the most part too, except for *la CEO*: positive tweets including this term (107) are more than negative ones (83). The positive sentiment towards the term *la CEO* is an interesting finding: it suggests that the public perception of women CEOs may be more positive than of other firm positions and may indicate that women CEOs are viewed more favorably than their male counterparts, perhaps because their presence is still perceived as a sign of progress and innovation.

We ran an analysis to check whether there was a difference in sentiment between the single keywords associated with entrepreneurship (i.e., *imprenditore* and *imprenditrice*) and those associated with the other leadership positions. To this end, we calculated the positive comparative advantage index. As explained in the Method section, when this index returns a value greater than 1, it indicates a more positive attitude towards the keyword in question than towards the other keywords analyzed; when the value is lower than 1, it indicates a more negative attitude. The attitude toward *imprenditrice* is more positive (1.80) while that toward *imprenditore* is more negative (0.93) than the others. In the second category (i.e., that of board members), the attitude toward *direttrice*, *direttore* and *la CEO* was more positive (respectively 1.01, 1.17 and 1.10) than the others.

The analysis shows that women's professional titles may be perceived more positively than men's, but their uptake is still limited. This finding reinforces that inclusive language can help improve female representation in leadership roles. The positive sentiment associated with *la CEO* may reflect increased media attention to women at the top of firms, who are often celebrated as examples of success and innovation. The narrowing of the gap between positive and negative tweets per female entrepreneur suggests a change in how women entrepreneurs are perceived, perhaps due to increased visibility and growth in initiatives to support female entrepreneurship.

To study the entrepreneur case better, we will consider tweets about *imprenditore* and *imprenditrice*. For the positions on the BoD, we will group tweets about *direttore*, *il CEO* and *amministratore* for the masculine case and *direttrice*, *la CEO* and *amministratrice* for the feminine case (Table 4).

Unlike for the entrepreneur case, where the index for the masculine *imprenditore* is lower (namely, 0.69) than the one for the feminine *imprenditrice* (namely, 1.33), for positions on the BoD, the index yields a higher value for the masculine (namely, 1.54) than for the feminine (namely, 1.73). When comparing both masculine and feminine terms for the two categories (entrepreneur and BoD), we can observe that the terms for entrepreneur have a lower positive comparative advantage index value

Table 4 Number of positive and negative tweets and positive comparative advantage index for masculine and feminine keywords for each category (entrepreneur and BoD). Source: personal elaboration

	Number of positive tweets	Number of negative tweets	Positive comparative advantage index
<i>Imprenditore</i> (“Man entrepreneur”)	142,687	481,530	0.69
<i>Imprenditrice</i> (“Woman entrepreneur”)	22,913	28,872	1.33
Total	165,600	510,402	0.74
Masculine keywords for positions in the BoD	165,003	157,017	1.54
Feminine keywords for positions in the BoD	4,286	3,154	1.73
Total	169,289	160,171	1.54

Table 5 Results of the proportion test * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$. Source: personal elaboration

Category	Sig-nificance positive tweets	Signifi-cance negative tweets
<i>Imprenditore</i> (“Man entrepreneur”) vs <i>Imprenditrice</i> (“Woman entrepreneur”)	***	***
<i>Direttore</i> (“Man director”) vs <i>Direttrice</i> (“Woman director”)	***	***
<i>Amministratore</i> (“Man administrator”) vs <i>Amministratrice</i> (“Woman administrator”)	*	*
<i>Il CEO</i> (“Man CEO”) vs <i>La CEO</i> (“Woman CEO”)	***	***

(namely, 0.74) than the terms for BoD (namely, 1.54), which is more than double the value for entrepreneur.

The differences in the positive comparative advantage index between male and female terms seem to reflect a complex dynamic of public perceptions, possibly influenced by gender stereotypes, cultural representations and external factors (Ellemers, 2018). The more positive attitude towards female terms in both contexts suggests a progressive acceptance of women in leadership roles. Still, the overall number of tweets remains lower, which could imply a higher visibility and discussion for male terms.

This may reflect a tendency toward criticism of male entrepreneurship, perhaps due to association with scandals, business crises, or controversial business practices. In contrast, using the term female entrepreneur seems to enjoy a more favorable perception, probably related to a growing appreciation of female entrepreneurship. However, the overall number of tweets mentioning entrepreneurs is much lower than that about entrepreneurs, suggesting a lower visibility or frequency of discussion about women entrepreneurs.

The result is a sign of progressive acceptance of women’s leadership in BoDs, perhaps due to legislative initiatives such as the gender quota law, which has increased the presence of women on corporate boards. However, the absolute number of tweets mentioning female versions of titles is significantly lower, indicating that, despite the positive perception, the representation and discussion of women on BoDs remain limited compared to men.

Table 5 Reports the results of the proportion test applied to compare the positive and negative sentiment associated with male and female titles. As shown, the results show

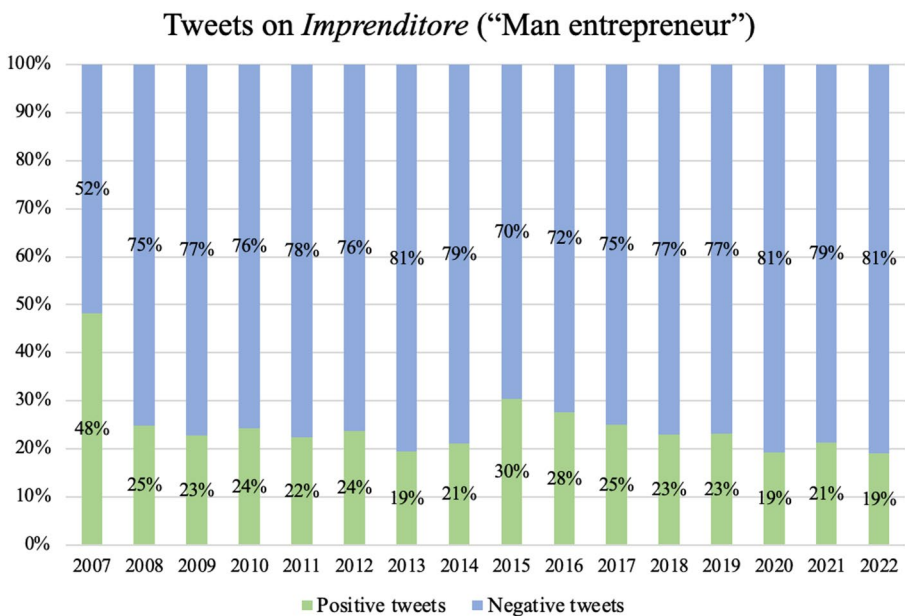
significant differences for all pairs analyzed. The results confirm that the differences in sentiment between male and female titles are statistically significant.

To assess whether the different public perceptions between masculine and feminine terms changed over time, we analyzed the percentage of positive and negative tweets from a diachronic perspective. As illustrated in Graph 2, the percentage of negative tweets (out of the whole dataset of positive and negative tweets) about *imprenditore* is consistently higher than the percentage of positive tweets from 2007 to 2022. There were no tweets in 2006. The percentage of negative tweets remained constant until 2016, when they began to increase from 70% reaching 81% in 2022.

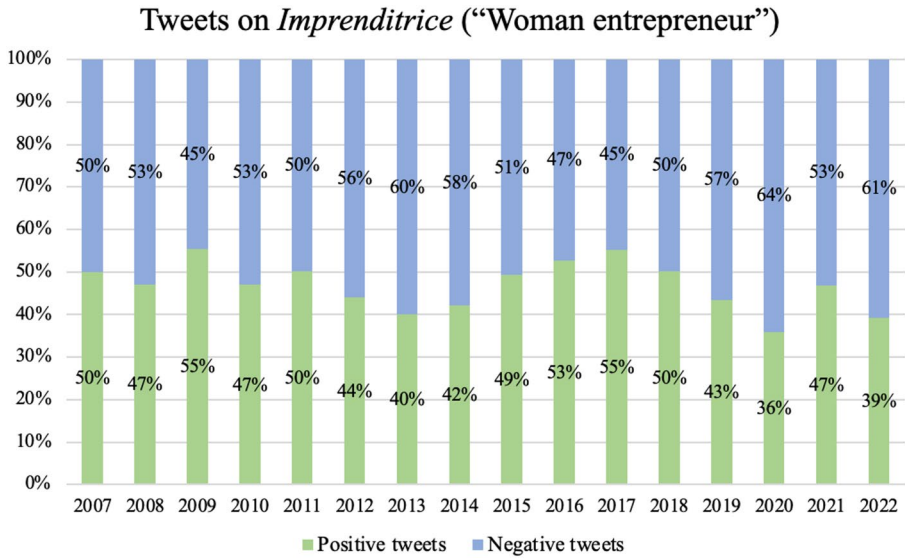
For the feminine *imprenditrice* (entrepreneur) (Graph 3), the difference between positive and negative tweets from 2007 to 2022 is less pronounced than the one for its masculine counterpart *imprenditore*. Again, there were no tweets in 2006. Starting in 2017, negative tweets made up 45% of all tweets containing *imprenditrice*, and since then, there has been an upward trend in positive tweets, which reached 39% in 2022.

For the positions on the BoD (Graph 4), the masculine cluster shows a rise in positive tweets from 2007 (when those keywords were first used) to 2016, going from 33 to 56%. However, from 2016 to 2022, this trend reversed, and the percentage of positive tweets dropped to 48%.

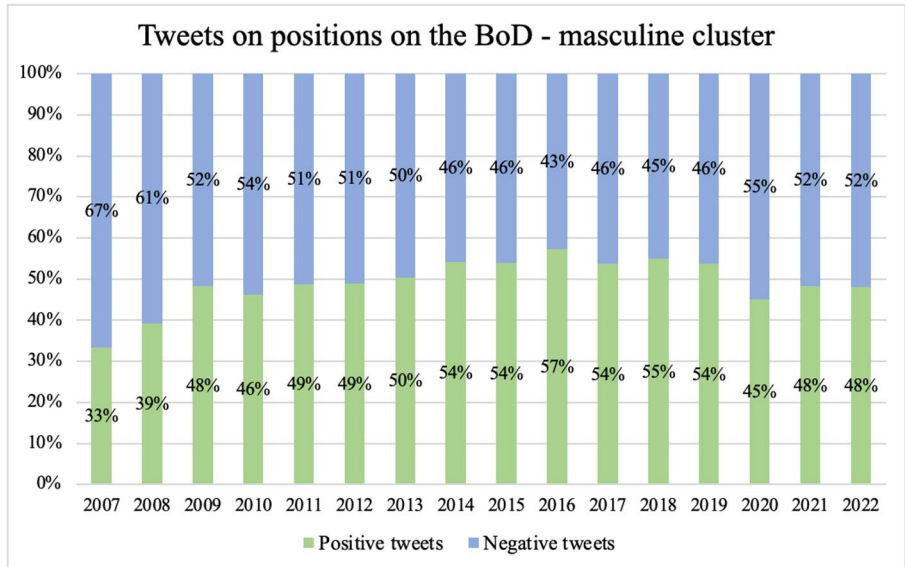
This trend could suggest heightened public scrutiny or criticism toward male entrepreneurs, possibly linked to broader discussions about accountability in leadership or media focus on high-profile controversies. Conversely, *imprenditrice* shows a more balanced sentiment, with a noteworthy rise in positive tweets from 2017 onward. This gradual shift may reflect increasing recognition of female entrepreneurs' contributions, aligning with



Graph 2 Percentage of positive and negative tweets on *Imprenditore* between 2007 and 2022. Source: personal elaboration



Graph 3 Percentage of positive and negative tweets containing *impreditrice* between 2007 and 2022. Source: personal elaboration



Graph 4 Percentage of positive and negative tweets of male positions on the BoD between 2007 and 2022. Source: personal elaboration

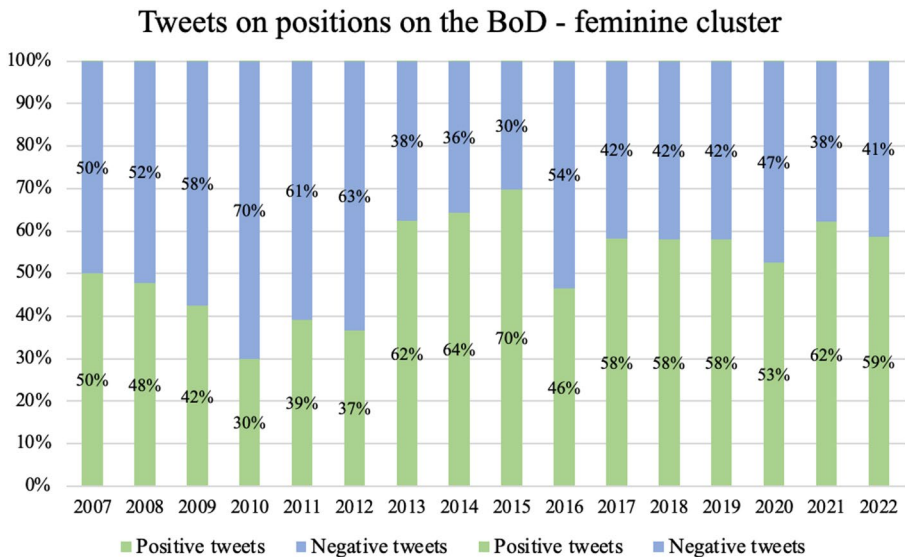
global efforts to promote gender equality and highlight women's roles in traditionally male-dominated fields.

For the feminine cluster related to positions on the BoD (Graph 5), the trend is variable, with high points of positive tweets in 2013, 2014 and 2015, reaching 62%, 64% and 70%, respectively. However, from 2017 to 2022, the trend has been relatively stable.

For masculine terms, an initial rise in positive sentiment until 2016 reflects these roles' perceived prestige and importance. However, the subsequent decline to 48% positive sentiment by 2022 may indicate growing public scrutiny of male-dominated leadership structures or a backlash against perceived inequalities in corporate governance. For feminine terms, the variability in positive sentiment, with highs in 2013–2015, suggests moments of increased recognition for women in leadership roles. The stabilization after 2017 may indicate a plateau in public attention or a normalization of women's presence in governance, albeit still limited.

This analysis reflects an inertia in adopting inclusive language. While progress is evident in the growing recognition of women in professional contexts, the persistence of traditional linguistic practices and variability in sentiment trends underline the complexity of achieving genuine gender equality in representation.

Regarding the analysis comparing tweets containing masculine terms to refer to female entrepreneurs (posted in October, November, and December 2021), the masculine term for entrepreneur, when associated with a female entrepreneur's name, was predominantly used in discussions about awards and recognitions. This finding highlights a particular context in which the masculine form of the job title is employed when referring to women, suggesting a possible association between the usage of the term and high-profile achievements or accolades. Since news outlets typically cover public events such as awards, the use of the masculine term *impre-*



Graph 5 Percentage of positive and negative tweets containing feminine terms for positions on the BoD between 2007 and 2022. Source: personal elaboration

7 Discussion and conclusion

Given the ability of language, shown by a good deal of literature, to reinforce or, on the contrary, challenge stereotypes, the use of feminine titles for women in leadership positions can promote female presence in such roles (Lindqvist et al., 2019; Mavisakalyan, 2015). Nonetheless, as Cignarella et al. (2021) showed, they are not proportionate to the presence of women in several fields. Our study highlights an analogous tendency concerning leadership positions.

The results show a predominant use of the masculine form over the feminine one for all analyzed terms of leadership positions. This aligns with feminist theories of language, which suggest that entrenched language structures maintain existing power hierarchies (Eckert & McConnell-Ginet, 2013). However, we report an increase over time in the percentage of tweets containing the feminine form compared to the total use of the term for both genders. This trend, although not always marked, is confirmed for the terms *amministratore*, *direttore*, and *imprenditore*; in contrast, the use of the feminine form *la CEO* does not reflect a relative increase concerning the masculine form, but instead we note a very discontinuous use of *CEO* in both genders over time. Despite a positive trend in the use of feminine forms, linguistic resistance persists, especially in prestigious areas such as the CEO role, suggesting that language is more rigid in contexts where leadership is historically male-dominated (Sczesny et al., 2016). The phenomenon could be related to deeper cultural dynamics that deserve further investigation, and this persistence confirms the role of institutional norms in shaping linguistic practices, reinforcing traditional gender roles in professional environments (Hechavarría et al., 2018; North, 2005).

The positive comparative advantage index is lower for tweets related to entrepreneurs than for tweets concerning positions on the BoD. This result reflects the findings of Horvath and Sczesny (2016), who argue that individual entrepreneurs are subject to more substantial gender biases than individuals embedded in organizational structures.

Tweets containing the feminine terms have a higher index, signifying a higher positive attitude. This result holds to both categories (entrepreneurs and BoD). The difference between *imprenditore* and *imprenditrice* is considerable in the category of entrepreneurs. A possible explanation relies on the greater attention that negative news tends to generate in the business sector. Additionally, the greater number of negative tweets containing *imprenditore* and *imprenditrice* may be attributed to the fact that these figures are closely associated with the person. In contrast, in the case of corporate offices, the focus is more on the firm as a whole rather than on individual leaders. As a result, it is easier to express personal opinions and preferences, even negative ones, when referring to the physical person fulfilling this role. The lower visibility of women entrepreneurs compared to board members suggests that linguistic change alone is insufficient to counteract entrenched biases and must be supported by broader institutional interventions (Lindqvist et al., 2019).

Focusing on the diachronic trend, negative tweets containing *imprenditore*, *imprenditrice*, and masculine terms for positions on the BoD have increased recently positive tweets containing feminine terms for positions on the BoD have increased. We attribute this achievement to the increased awareness regarding gender equality issues in positions on the BoD. Institutional theory helps explain this shift: organiza-

tions adapt to changing societal expectations, which leads to gradual linguistic and structural change (Hechavarria et al., 2018). Additionally, as suggested by Olsson and Martiny (2018), media representation has a significant influence on female leadership, highlighting the importance of increased visibility for women in high-status roles. The results suggest that women in top roles enjoy more favorable perceptions, but the overall volume of discussion about women leaders is still much lower than for men. Greater media exposure could contribute to a normalization of women's careers in leadership roles. The results suggest that while gender-fair language may contribute to shifting perceptions, it is not sufficient to dismantle deeply ingrained biases. Greater visibility of women in leadership roles, amplified by media coverage and policy interventions, could further normalize feminine job titles. However, as Stahlberg et al. (2001) emphasize, linguistic change must be accompanied by broader structural transformations to be genuinely effective. This point is particularly relevant in entrepreneurship, where the association between risk-taking and masculinity continues to hinder the acceptance of female entrepreneurs (Carter et al., 2003; Erhardt et al., 2003).

The findings of this study carry important implications across theoretical and practical domains. Theoretically, this research contributes to the growing body of feminist linguistic literature on gender-fair language and its impact on organizational structures, particularly about leadership positions. While previous studies have highlighted the role of language in reinforcing gender norms, this study expands the discussion by demonstrating how digital discourse, particularly on social media, reflects and shapes evolving attitudes towards gendered job titles in professional settings.

It extends institutional theory, particularly regarding the representation of and attitude towards gender diversity in leadership roles. By integrating insights from feminist linguistics to explore how language both reflects and reinforces institutional norms and power structures. Unlike traditional institutional approaches, which often overlook linguistic mechanisms, our findings suggest that language itself acts as an institutional force, capable of both maintaining and challenging gender disparities in leadership.

By bridging these two theoretical frameworks, this study provides a more nuanced understanding of the intersection between language, organizational culture, and gender representation.

From a policy perspective, these results highlight the need for more targeted efforts to promote gender-fair language, particularly in leadership contexts where masculine terms remain dominant. While the increase in the use of feminine titles suggests some progress, the persisting discrepancy between male and female terms in public discourse signals a continued resistance to linguistic inclusivity, which could contribute to maintaining gender biases in leadership representation.

One notable finding is that tweets using feminine titles tend to elicit a more positive sentiment than their masculine counterparts, particularly for women in BoD positions. The finding suggests that, while still underutilized, gender-fair language does not necessarily meet strong opposition from the public and may, in some cases, be perceived favorably. Institutions and organizations could leverage this insight to normalize feminine professional titles' use in internal and external communications, reinforcing their legitimacy in public discourse. Organizations and institutions can

adopt and enforce gender-fair language guidelines in internal communications and public-facing materials. These policies can help break down unconscious biases, making leadership positions more accessible to women and fostering greater gender equity at the top levels of management. Exploring gendered linguistic patterns can enhance our comprehension of enduring gender gaps in management and entrepreneurial pursuits spanning various nations and eras. Public bodies should set an example by adopting language that acknowledges and empowers individuals of all genders. Despite the adoption of gender-fair language guidelines by many institutions, particularly the European Parliament (2018), their use in communication is rare. Launching awareness campaigns is essential. These campaigns should highlight the significance of gender-fair language for achieving gender equality in management and entrepreneurial roles. It's vital to implement educational programs and training that address gender biases and stereotypes prevalent in entrepreneurship and management. These programs can play a role in sensitizing individuals about the language they use and promoting more inclusive practices.

From a managerial standpoint, the evidence that discussions surrounding female entrepreneurs and board members are increasingly positive highlights an opportunity for firms to align their communication strategies with evolving social perceptions. Organizations that actively adopt gender-fair language in their branding, hiring, and leadership policies may benefit from enhanced public perception and a stronger reputation for inclusivity. There's a need to promote gender-fair language, particularly in official and corporate communications.

Furthermore, the regional disparities in adopting feminine job titles suggest that local cultural factors influence linguistic practices. Such evidence indicates that policy interventions and corporate initiatives should be tailored to specific socio-cultural contexts, ensuring that gender-fair language is encouraged at a national level and promoted in areas where its adoption remains particularly low.

The analysis could expand further and provide a rich perspective for future research. A possible future development could include a system capable of assessing, in addition to traditional sentiment analysis, the motivations that cause a user to judge the professional figures being studied positively or negatively. Moreover, it would be fascinating to analyze more in-depth samples of tweets considering different temporal moments and different professional categories. One could consider the tweets posted by news outlets containing the selected keywords to increase the depth of analyses. The lower number of such tweets could allow for manual cleaning. Further avenues for future research include analysing the tweets' origin and differentiating the authors into categories such as private individuals, firms, public institutions, newspapers, etc. This knowledge would provide a deeper understanding of how the use of feminine terms varies between the different sources and how the sentiment towards these terms may vary depending on the type of author.

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under their personal responsibility that the article is the outcome of their common considerations.

Specifically:

1. **Introduction** is attributable to Mariasole Bannò, Andrea Franzoni, Chiara Leggerini and Martina Rosola
2. **Theoretical background** is attributable to Mariasole Bannò
3. **Gender and Language Structure in the Italian Context** is attributable to Martina Rosola
4. **Empirical analysis** is attributable to Chiara Leggerini
5. **Results** is attributable to Chiara Leggerini and Andrea Franzoni
6. **Discussion and conclusion** is attributable to Mariasole Bannò, Andrea Franzoni, Chiara Leggerini and Martina Rosola

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