Article
A Case Study of Negated Adjectives in Commuters’ Twitter Complaints
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Abstract: In today’s digital society, social networks such as Twitter are a preferred place for expressing one’s emotions, especially when they are negative. Despite a growing interest in the variety of linguistic realizations of commuters’ complaints, little attention has so far been paid to writers’ choices, especially when morphologically or syntactically simpler alternative formulations are available. A typical example is the “inference towards the antonym” triggered by the negation of contrary adjectives, an effect that is stronger for positive compared to negative adjectives. In the context of railway transport, a customer could use the negative statement The train is not clean instead of the corresponding affirmative sentence The train is dirty. It remains unclear, in our current state of knowledge, why online customers would prefer more complex constructions to voice their criticisms. Based on a large corpus of tweets sent to the French and Belgian national railway companies by their customers, I have semi-automatically extracted instances of not (very) + adjective (ADJ). Based on previous observations in the literature, I expected positive adjectives to be more frequently used in these negative environments compared to negative ones. As recent research demonstrates that one’s desire to save the interlocutor’s face is not necessarily the only reason why positive adjectives are used in linguistically negative environments, other motivations will also be considered. More precisely, I suggest that in a context where negativity is prevalent, customers using negated positive adjectives kill two birds with one stone: not only do they signal an issue with a product or a service, pointing to expectations that have not been met by the company, but they also mitigate the impact of their negative comments to the positive face of the service managers with whom they are interacting. By offering a quantitative, corpus-based analysis of negative constructions, complemented by a qualitative linguistic analysis of selected examples, this research sheds new light on users’ lexical choices in online negative customer feedback.

Keywords: customer dissatisfaction; complaints; Twitter; X; adjectives; negation; polarity

1. Introduction

Social network platforms such as Twitter (now X)¹ are often used by customers to vent their negative emotions. Previous studies in pragmatics have documented the variety of linguistic realizations of customers’ complaints addressed to transport companies such as airlines (Lutzky 2021) and train operating companies (Depraetere et al. 2021; Lutzky 2021). In addition, experimental studies have investigated the impact of evaluative language on readers’ perception of a customer as being more or less dissatisfied and impolite (Ruytenbeek et al. 2023a, 2023b). However, little attention has so far been paid to users’ linguistic choices, especially when alternative formulations are easily available. This is where the “inference towards the antonym” (ITA) takes effect: an ITA can be triggered by the negation of contrary adjectives, e.g., saying that John is not kind to convey that he is mean (e.g., Ruytenbeek et al. 2017). At the literal level, the speaker/writer is not asserting that John is mean, he is only denying that John is kind. The strengthened meaning—according to which John is framed as a mean person—and which has to be inferred by the recipient, can, thus, be considered as one that is indirectly asserted, a type of “indirect speech act” (see e.g., Searle 1975; Ruytenbeek 2021). When talking about their experience with a railway

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1. Twitter (now X) is a social media platform where users can tweet short messages and follow other users. The platform is known for its echo chamber effect, where users often reinforce each other's views, potentially leading to the spread of misinformation and online hostility.
company, a customer could use a negative statement such as *The train is not clean* (instead of *dirty*), while intending *not clean* to be interpreted as “quite dirty”.

Two research questions will be addressed in the study proposed in this article. First, I will investigate whether positive adjectives occur more frequently under the scope of negation compared to negative adjectives. To the best of my knowledge, this prediction has not yet been tested on the grounds of authentic user data. In the context of customer complaints, the negation of a positive adjective is an alternative to the affirmation of a negative adjective. Positive adjectives can, therefore, be expected to be more frequently negated than their negative counterparts. Moreover, due to a higher concern for face-threat considerations in the case of customer complaints compared to compliments, negative adjectives are more likely to be mitigated, i.e., framed as negated positives, than positive adjectives: “Existing proposals agree that [recipients] should expect negative evaluations to be conveyed via the negation of a positive adjective (but not the other way around)” (Gotzner and Mazzarella 2024, p. 3). An additional motivation for this prediction, which is specific to morphological adjectives such as *responsible/irresponsible*, is that negating the negative member of an adjectival pair, as in *not irresponsible*, makes the construction even more complex than negating its positive member, e.g., *not responsible*. Second, I will explore frequency differences between the negated version of a positive adjective, such as *not responsible*, and its non-negated negative antonym, such as *irresponsible*, in different individual antonymic pairs. In addition to these two research questions, I will also address the different reasons for which online customers would prefer producing a statement containing a negated positive adjective (e.g., *X is not responsible*) instead of a statement containing its negative antonym (e.g., *X is irresponsible*).

This paper is structured as follows. In Section 2, I provide a review of the available literature devoted to the expression of customer dissatisfaction on Twitter, focusing on the use of evaluative adjectives in negative customer feedback in French; I also zoom in on the “inference towards the antonym”, a pragmatic mechanism that allows users to convey negative opinion using understatement. In Section 3, I detail the methodological steps that were taken for the present research. Section 4 provides the results of quantitative analyses of the frequency of negated positive and negative adjectives in a large corpus of tweets written in French and addressed to the national railway companies of Belgium and France; I will also illustrate the results of these corpus analyses with a qualitative analysis of actual examples from the corpus. In Section 5, the results will be interpreted against previous research and a critical discussion of the study findings will be proposed. Section 6 contains the general conclusion of the study; it also includes suggestions for future empirical research on negated adjectives in online business communication.

2. State of the Art

The rise of the internet, particularly through social media platforms, has significantly transformed how companies interact with their customers. In today’s digital age, customers have ample opportunities to voice their opinions on products and services, often sharing recommendations with peers (Argenti 2006), typically through Twitter, a platform that is known for the pervasiveness of negative feedback, such as complaints and criticism, inherent to many posts (Vargo et al. 2019, p. 1157). Given the considerable influence that customer feedback wields over other consumers’ purchasing decisions (e.g., Vermeulen and Seegers 2009; Von Helversen et al. 2018), there has been a surge of interest in studying the linguistic strategies used by both satisfied and dissatisfied customers to express their feelings (see, e.g., Decock 2022; Ruytenbeek and Decock 2024). Building on this trend, the present research proposes a corpus linguistic analysis of online customer discourse, focusing specifically on customer tweets, which can be considered as a form of electronic word-of-mouth (Jansen et al. 2009). Research in the travel industry, particularly the airline sector, has explored wecare and eWOM. For instance, Cavalieri and Corrizzato (2022) have examined communicative strategies on Twitter between customers and European airlines. Unlike the extensive research within the airline industry (see e.g., Lutzky 2021,
Regarding tweets addressed to railway companies, Decock and Depraetere (2018) introduced a new approach to categorizing online complaints by examining French, German, and Dutch Twitter complaints. They identified the constitutive components of a complaint scenario and whether these components are (para-)linguistically articulated within a complaint tweet. Their approach was further validated by Depraetere et al. (2021) through a small-scale quantitative study. They analyzed the realization of complaint components in Twitter complaints directed at train operating companies, focusing on tweets involving the Belgian national railway company (SNCB) and its French equivalent (SNCF). While these authors were mainly interested in possible differences between their Belgian and French datasets, they also provided a number of interesting findings regarding the frequencies of complaint component in general, and of component realizations in particular. Regarding the realizations of negative evaluations about the complainable, 24% of their complaint tweets contain at least one instance of a negative evaluative adjective or adverb (these two syntactic categories were merged in their coding, which makes it difficult to compare the frequency of adjectives with that of adverbials). These negative evaluative adjectives were used by commuters to express a wide range of negative emotions towards the company or the situation experienced, such as anger (vous n’avez pas honte? ‘aren’t you ashamed of yourself?’), annoyance (triste ‘sad’), disappointment (déçu ‘disappointed’), disapproval (inutile ‘useless’), dissatisfaction (pas content ‘not happy/satisfied’), and feeling shocked/outraged (scandaleux ‘scandalous’). Sometimes, instead of using an evaluatively negative adjective, users prefer to phrase their criticism with the corresponding positive antonym combined with a negation, as with pas normal (‘not normal’) or pas content. In the context of negative feedback targeted at railway companies, such statements are usually interpreted as an assertion of the oppositive polarity, i.e., an inference towards the antonym (ITA) is triggered from Je ne suis pas content (‘I am not satisfied) to “Je suis mécontent” (‘I am dissatisfied’).

Recent experimental studies have emphasized the significant role polarity plays in interpreting negated contrary adjectives. Specifically, ITA effects appear to be stronger for positive adjectives compared to negative ones (Colston 1999; Fraenkel and Schuller 2008; Gotzner et al. 2018; Gotzner and Mazzarella 2024; Mazzarella and Gotzner 2021; Ruytenbeek et al. 2017; see also Horn 1989, pp. 334–37 for a discussion). For instance, the inference from John is not kind to “he is mean” is stronger than the inference from Peter is not mean to “he is kind”. This effect is particularly pronounced in morphological antonymic pairs (Ruytenbeek et al. 2017). For example, the meaning of John is not happy (a negated positive adjective) is perceived to be closer to that of John is unhappy than the meaning of John is not unhappy (a negated negative adjective) is to that of John is happy. However, the degree to which positive adjectives are favored over their negative counterparts in these negative environments remains unclear. In addition, to this day, no study has documented the relative frequencies of negated positive adjectives and their non-negated negative counterparts.

Several authors, such as Bolinger (1972), Horn (1989), and Langendoen and Bever (1973), have noted that evaluatively positive adjectives such as kind are more felicitous under the scope of not very than their antonyms, i.e., mean (see Ruytenbeek 2020 for preliminary experimental evidence). This observation suggests that in natural language, the X is not very + adjective (ADJ) construction would more frequently contain positive than negative adjectives. A recent examination of the frequency of positive and negative adjectives occurring under negation, which I conducted using the Corpus de Français Parlé Parisien (CFPP2000; Branca-Rosoff et al. 2012), confirmed this hypothesis. The analysis revealed
that the construction X n’est pas très ADJ (‘X is not very ADJ’) more frequently features positive adjectives compared to negative ones (86 vs. 8). However, no such imbalance was observed for positive versus negative adjectives in the construction with the simple negation X is not ADJ (18 vs. 26); this latter finding is likely to be due to the small number of occurrences of X is not ADJ overall in the corpus. I, therefore, believe that the examination of larger-scale corpora, such as the one used in the present study, is needed to provide more solid insights regarding the distribution of positive and negative adjectives in linguistically negative environments.

There are several reasons for using negated positive adjectives instead of non-negated negative ones. First, according to Brown and Levinson’s (1987) politeness theory, negated positive antonyms serve as a means to decrease the potential face-threat inherent in our communicative interactions. For instance, since criticism jeopardizes an entity’s (e.g., an individual or a company) positive face (their desire for approval), a writer might attenuate this threat by employing a positively framed expression, which is perceived as an understatement. As a result, instead of directly stating that a train seat is dirty, the person might opt for a less direct approach, such as saying that the train seat is not clean, thereby implying a similar message in a more polite manner (e.g., Mazzarella and Gotzner 2021; Ruytenbeek et al. 2017). A second reason for using negated positive adjectives instead of their negative antonyms refers to the people’s overall preference for adopting a positive perspective on the situations they are describing. Following the Polyanna hypothesis (Boucher and Osgood 1969), there is a human tendency to focus on the positive and avoid the negative in language use (see also Matlin and Stang 1978). In that view, the motivation for a writer to say not clean instead of dirty is their personal desire to use an adjective that has a positive orientation. While these two sorts of reasons focus on the recipient or the writer, respectively, they are not incompatible. Third, using negated positive adjectives allows oneself plausible deniability if one’s statement is challenged (Lee and Pinker 2010). For instance, while saying that the train manager was not kind might suggest to the recipient that the individual was in fact mean, this interpretation counts an implicature: it can be cancelled by adding, e.g., But he wasn’t mean either. Just don’t count on much support from him (Mazzarella and Gotzner 2021, p. 2). Since the ITA interpretation of the negative statement is defeasible, it is possible for the writer to retract and disavow the intention of conveying a clearly negative meaning.

It remains unclear, in our current state of knowledge, why online customers would occasionally prefer negative (and more complex) constructions such as X is not (very) ADJ_A instead of X is ADJ_B (where A and B are antonymic adjectives, with A the positive member of a pair and B the negative one) to signal an issue or convey their dissatisfaction. Now, due to their high degree of anonymity, commuters are unlikely to seek for possible deniability to protect themselves in the case of harsh statements against the company. While recent research demonstrates that politeness considerations are not always the reason why positive adjectives are preferred over negative ones in negative environments (Mazzarella and Gotzner 2021), I will explore the idea that customers’ desire to smoothen interactions with service managers on Twitter explains, to some extent, their use of indirect statements such as not ADJ. That being said, I will also consider other possible explanations for their use of adjectives, in particular the positive ones, in linguistically negative environments.

By offering a quantitative, corpus-based analysis of negative constructions, complemented by a qualitative analysis, the present study will document customers’ lexical choices for expressing their dissatisfaction on Twitter. More specifically, a frequency-based approach will provide new insights into online customers’ use of positive evaluative adjectives in negative constructions (X is not ADJ and X is not very ADJ).

3. Methodology

The analyses reported on in this article are based on a subset of the French Train Twitter Corpus (FTTC) (author, in preparation), which contains only the tweets sent by customers to service managers of the French (SNCF) and Belgian (SNCB) railway companies. As shown
in Table 1, this customer subcorpus comprises 232,811 tweets and a total of 5.1 million words, which were posted by the customers of the French and Belgian train operating companies between 2018 and 2022. The largest subcorpus consists of the tweets directed at the SNCF: it includes 199,115 tweets and a total of almost 4.4 million words.

Table 1. Word count and number of tweets for the customer subcorpus.

<table>
<thead>
<tr>
<th></th>
<th>SNCB</th>
<th>SNCF</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of tweets</td>
<td>33,696</td>
<td>199,115</td>
<td>232,811</td>
</tr>
<tr>
<td>Word count</td>
<td>728,204</td>
<td>4,392,482</td>
<td>5,120,686</td>
</tr>
</tbody>
</table>

3.1. Data Collection

Based on the dataset of tweets described above, which were written in French and sent to the French and Belgian national railway company by their customers, I have, using Sketch Engine (Kilgarriff et al. 2014), semi-automatically extracted all instances of pas + adjective (ADJ) (‘not ADJ’). In a next step, I manually selected the instances where the negated adjective was a contrary or contradictory adjective, thus removing past participles, adverbs and nouns.

In order to only retain the adjectives that can be conceptualized according to evaluative and/or morphological polarity (cf. Ruytenbeek et al. 2017), I applied several exclusion criteria. That is, I removed examples containing color and nationality adjectives, nouns used in a predicative function (e.g., je ne suis pas spécialiste) and adjectival uses of the names of professions (e.g., je ne suis pas footballeuse, fumeur/fumeuse), the combination pas + ADJ + noun (e.g., pas grande affluence, pas grand-monde). Metalinguistic uses of negated adjectives, such as Je dis pas malin pour éducorner le propos, and rhetorical questions, such as Vous trouvez pas absurde le changement de conducteur à Nanterre pref? were not included. In the same vein, I decided to leave out instances of Il ne/Ce n’est pas possible de + VP? when they were used as indirect requests for action of the interrogative form. Neither were idiomatic expressions containing a negation, such as (si) c’est pas beau, ça? (“isn’t that beautiful?”), pas vrai? in its use as a confirmation tag (‘isn’t it?’), or constructions such as pas propre/unique/spécifique à NP retained (the examples with the evaluative meanings of these adjectives, without a prepositional complement, were not removed). When there was tangible evidence, such as lexical and syntactic mistakes, that the writer of the tweet was not a native speaker of French, the example was not included.

I did not discard comparatives, e.g., pas meilleur/pire (‘not better/worse’), and negated adjectives in conditional environments. For sentences including a subjunctive verb, I only included the instances where the clause in the subjunctive had a factual implication, i.e., the event denoted by the subjunctive was presented as not being at issue.

The same procedure was followed for another negative construction that can give rise to ITA effects (Horn 1989, pp. 353–54; Leffel et al. 2019; Ruytenbeek et al. 2017), i.e., the combination of the simple negation pas and the intensifier très (‘very’), both for the French and the Belgian national railway companies.2 I retained, in the final dataset, instances of pas (très) ADJ1 and ADJ2, where pas (très) takes scope on both adjectives. To sum up, the final dataset (see Table 2) contains instances of the following constructions: X n’est pas ADJ, Il/ Ce n’est pas ADJ de + verbal phrase (VP), Il/ Ce n’est pas ADJ que + clause, pas ADJ pour + noun phrase (NP), and pas ADJ (where the adjective is understood as being predicated of, e.g., a situation). The total number of instances retained for the final analyses is specified in Table 2.

Table 2. Overview of the final dataset.

<table>
<thead>
<tr>
<th></th>
<th>SNCF (France)</th>
<th>SNCB (Belgium)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pas + ADJ</td>
<td>2745</td>
<td>508</td>
<td>3253</td>
</tr>
<tr>
<td>Pas très + ADJ</td>
<td>256</td>
<td>57</td>
<td>313</td>
</tr>
</tbody>
</table>
3.2. Ethical Considerations

Since a large number of tweets are accessible to any user of the internet (boyd 2010), one might assume that it is a fair practice for researchers to exploit tweets for scientific purposes, as long as they do not claim ownership of these tweets (the authors retain ownership of their content on Twitter/X). That being said, ethically, using the content of tweets in scientific research raises issues such as consent and traceability (Williams et al. 2017). In the present study, in the footsteps of Depraetere et al. (2021), I followed the guidelines from the Association of Internet Researchers (Franzke et al. 2020; Markham et al. 2012), complemented with recommendations from Bolander and Locher (2014) and Locher and Bolander (2019). While Twitter’s terms of service do not prevent scholars from using the content of tweets in their research, it can be assumed that the data under scrutiny does not contain sensitive information. For instance, if service managers request personal information from their customers, they do so via private messages. Regarding insults targeted at the railway company, to the best of my knowledge, none of these could be traced back to an identifiable individual (while some service managers use a pseudonym consisting in a first name, they never disclose their full family name). User names were not visible in the FTTC. Finally, as the authors of tweets are not considered a vulnerable population, and in view of the non-invasive nature of the present research, I reasonably assumed that this study would not harm the customers or the service managers who took part in the conversational exchanges included in the FTTC.

3.3. Data Analysis

To be able to determine whether positive adjectives are more frequent in negative linguistic environments than negative ones, I manually counted the number of instances including a particular adjective in the not ADJ and not very ADJ constructions. No difference was made between feminine, masculine, singular, and plural forms of an adjective. I identified, in the resulting dataset, the polarity (positive, e.g., *bon* ‘good’ or negative, e.g., *mauvais* ‘bad’ for the evaluative polarity; positive, e.g., *trouvable* ‘findable’ or negative, e.g., *introuvable* ‘nowhere to be found’ for the morphological polarity; positive, e.g., *grand* ‘big’ or negative, e.g., *petit* ‘small’ for the dimensional polarity) of each adjective. A similar approach was taken to analyze the frequency of use of negated positive adjectives and their non-negated negative antonyms. The Excel files that contain the concordances and the frequency counts are publicly available on the Open Science Framework: https://osf.io/73mtu/?view_only=5a44f66f36c342f39924ce95265ec3e1, accessed date 8 August 2024.

4. Results

Two predictions were tested in this study. First, as positive adjectives are more felicitous in linguistically negative environments and give rise to a stronger ITA effect compared to negative adjectives, positive adjectives should be more frequent than negative ones under the scope of the negation *pas*. Second, for the same reasons, positive adjectives should also be more frequent than negative ones under the scope of the complex negation *pas très* (*not very*), which is a combination of the simple negation and an intensifier. In the absence of any available hypothesis, possible differences in the frequency of use of negated positive adjectives and their non-negated negative counterparts will be examined using exploratory analyses.

4.1. Pas + ADJ

In the French (SNCF) customer tweets, a significant relationship was found between the variables of adjectival polarity and the presence of the adjective under the scope of a simple negation (i.e., *pas*), as shown by a Pearson’s chi-squared test with Yates’ continuity correction ($X^2 (1, N = 2745) = 1955.7, p < .0001$). Positive adjectives (N = 2531), such as *agréable* in (1), were more likely than negative ones (N = 214), such as *incompatible* in (2), to occur under the scope of *pas*. 
(1) Je trouve les sièges durs. La hauteur du repose tête n’est pas agréable. ‘I find the seats hard. The height of the headrest is not pleasant.’

(2) Sauf erreur, c’est incompatible avec une planification de la réparation! ‘Unless I’m mistaken, [this] is not incompatible with repair planning!’

When the analysis was restricted to a set of 86 pairs of canonical antonymic adjectives, the difference between the frequency of the positive (N = 1669) and that of the negative (N = 29) antonymic adjectives also proved statistically significant ($X^2(1, N = 1698) = 1584, p < .0001$). I found that the large majority of adjectives occurring under the simple negation pas in the SNCF tweets are morphological ones: possible (N = 568), normal (N = 188) and capable (N = 155) constitute the top three.

Likewise, in the Belgian (SNCB) customer tweets, adjectives with a positive polarity (N = 431) were more frequent under the scope of the simple negation pas compared to adjectives with a negative polarity (N = 77); this difference was statistically significant ($X^2(1, N = 508) = 246.7, p < .0001$). As in the SNCF data, the morphological adjectives possible (N = 568) and normal (N = 188) and capable (N = 155) constitute the top three.

To take a closer look at the relationship between negated positive adjectives and their antonyms without negation, I compared the individual frequencies associated with the four positive adjectives that count among the most frequently negated ones in the SNCF and SNCB datasets, i.e., possible, normal, capable, and responsible (‘responsible’), the first two constituting the top two of both datasets, such as X n’est pas possible, with the frequencies of their non-negated negative antonyms, as in X est impossible.

For some pairs, the affirmed negative adjective appears to be more frequent than its negated positive antonym. For instance, for the pair possible/impossible in the SNCB data, the difference between the frequency of pas possible (N = 61) and that of impossible (N = 29) proved statistically significant ($X^2(1, N = 90) = 4.12, p = .042$). This was also the case in the SNCF data: impossible (N = 270), as in (6), was used more often than pas capable (N = 155), as in (7) ($X^2(1, N = 41) = 31.12, p < .0001$).

(3) J’ai voulu télécharger mon billet le jour même et impossible. ‘I tried to download my ticket the same day but couldn’t.’

(4) bon, je ne trouve pas normal que le dédommagement ne soit pas possible pour la branche sud du RER B […] ‘Hi, I don’t think it’s right that compensation is not possible for the southern branch of RER B […]’

(5) vous m’avez lancé une malédiction [sic] c pas possible. ‘you put a curse on me, that’s not possible.’

(6) les rois de la grève mais incapables d’offrir un service cohérent. ‘the kings of strikes but unable to offer a coherent service.’

(7) Cher SNCF merci de nius expliquer pourquoi vous êtes pas capable d’organiser correctement les trains […] ‘Dear SNCF, please explain why you are unable to organize trains properly […]’

By contrast, for the pair normal/anormal, the phrase pas normal (8) appears to be statistically more frequent than anormal (9), both in the SNCB data ($X^2(1, N = 38) = 26.9, p < .0001$)
(N = 35 vs. 3, respectively) and in the SNCF data ($X^2 (1, N = 209) = 133.4, p < .0001$) (N = 188 vs. 21, respectively).

(8) Euh non non, trafic #TGV pas normal 😓 #TGV5322 une nouvelle fois supprimé…

‘Uh no no, TGV traffic not normal 😓 #TGV5322 cancelled again…’

(9) la situation tout autant que votre réponse est anormale en période de fortes chaleurs.

‘both the situation and your answer are inappropriate during very hot weather.’

Finally, the frequency of pas responsible and irresponsible did not appear to be significantly different in either dataset. In the SNCB data, pas responsible (N = 13), as in (10), was numerically more frequent than irresponsible (N = 5), as in (11) (N = 5) ($X^2 (1, N = 18) = 3.5, p = .059$); in the SNCF data, pas responsible (N = 48) was also numerically more frequent than irresponsible (N = 35) ($X^2 (1, N = 83) = 2.04, p = .15$).

(10) sais bien que vous CM n’êtes pas responsables.

‘I know that you CMs are not responsible.’

(11) Train à 4 wagons, vous êtes sérieux? C’est irresponsible!!!

‘Are you serious about the 4-carriage train? It’s irresponsible!!!’

Unlike irresponsible, exclusively part of harsh criticisms again the company, pas responsible is also used by customers to acknowledge the fact that it is not the customer manager (CM) who is responsible for the inconvenience, as is illustrated in (10); in other cases, it is used to make the company face up to its responsibilities (it is not its users who are responsible for the company’s failures). It should be noted that both incapable and irresponsible are also used as nouns in tweets from dissatisfied customers (e.g., Vous êtes des incapables/irresponsables!); the occurrences of this nominal (and not adjectival) construction were not taken into account in the statistics reported above.

4.2. Pas Très + ADJ

In the French (SNCF) customer tweets, a significant relationship was found between the variables of adjectival polarity and the presence of the adjective under the scope of the complex negation pas très ($X^2 (1, N = 256) = 225, p < .0001$). Positive adjectives (N = 248), such as clair in (12) were more likely than negative ones (N = 8), such as grave in (13), to occur under the scope of pas très.

(12) Le train compte à priori 4h de retard, mais c’est pas très clair.

‘The train is supposed to be 4 h late, but it’s not very clear.’

(13) Ce n’est pas très grave ce que je raconte là hein mais briefez vos équipes.

‘What I’m saying isn’t very serious, but you should advise your teams.’

When the analyses were restricted to a set of 32 pairs of canonical antonymic adjectives, the difference between the frequency of the positive (N = 83) and that of the negative (N = 0) antonymic adjectives remained statistically significant ($X^2 (1, N = 83) = 83, p < .0001$).

Similarly, in the Belgian (SNCB) customer tweets, adjectives with a positive polarity (N = 56) were more frequent under the scope of pas très compared to adjectives with a negative polarity (N = 1); despite the small number of occurrences, this difference appeared statistically significant ($X^2 (1, N = 57) = 53.07, p < .0001$). Even when the analyses were restricted to a set of nine pairs of antonymic adjectives, the difference between the frequency of the positive (N = 13) and that of the negative (N = 0) antonymic adjectives in this negative environment proved statistically significant ($X^2 (1, N = 13) = 13, p < .001$).

Unlike in the case of the pas + ADJ construction, the distribution of (non-)morphological adjectives is more balanced for pas très + ADJ: the top three in the SNCF data are clair (N = 37), pratique (N = 21)—two non-morphological adjectives—and logique (N = 12), a morphological adjective. In the SNCB data, clair (N = 9) too is the most prominent adjective used under the scope of pas très, followed by the morphological adjective agréable (N = 4) and the non-morphological one fiable (N = 4).
Non-Negated Antonymic Adjectives with *très*

It was found that positive adjectives occur more frequently under the scope of *pas très* than their negative antonyms in particular, and more than negative adjectives more generally. However, this finding is compatible with the possibility that positive adjectives would be more frequent overall under the scope of the intensifier *très* in the subcorpus explored compared to negative adjectives. It is, therefore, useful to compare the frequency of positive adjectives intensified by *très* with that of their negative antonyms in the same environment. In the absence of any available hypothesis, possible differences in the frequency of use of non-negated positive vs. negative antonymic adjectives under the scope of the intensifier *très* will be examined using exploratory analyses.

To enable a comparative analysis, a single list of concordances was compiled using *très* + ADJ (adjective as part of speech within one token right). The occurrences of the members of the adjectival pairs involved in the analyses reported on in Section 4.2 were then counted manually. In the French customer tweets (SNCF), a significant association was found between adjective polarity and the use of the intensifier *très* ($X^2 (1, N = 426) = 97.7, \ p < .0001$). These results indicate that positive adjectives ($N = 315$) are more likely to be used with *très* compared to their negative antonyms ($N = 111$). By contrast, possibly because of the small sample size, in the Belgian customer tweets (SNCB), there was no significant association between adjective polarity and the use of the intensifier *très* ($X^2 (1, N = 12) = .33, \ p = .56$): positive adjectives ($N = 7$) are no more likely to be used with *très* compared to their negative antonyms ($N = 5$). Based on the results for the SNCF data, the positives to negatives ratio appears to be much higher in the case of *pas très* ADJ compared to *très* ADJ (with a Cramer’s $V$ of .98 and .48, respectively). It, therefore, seems unlikely that the more frequent use of positive adjectives under the scope of *très* is also the reason why they more often occur in understatements such as *pas très* ADJ.

5. Discussion

The first finding of the present study is that positive adjectives are significantly more frequent under the scope of the simple negation than their negative counterparts. Importantly, a similar result was found when the analyses were restricted to the members of adjectival antonymic pairs. In addition, this asymmetric frequency effect occurred both in the French (SNCF) and Belgian French (SNCB) datasets. These results are well in line with recent experimental evidence showing that the ITA effect is stronger for evaluatively positive adjectives compared to their negative antonyms (e.g., Colston 1999; Fraenkel and Schul 2008; Gotzner et al. 2018; Gotzner and Mazzarella 2024; Mazzarella and Gotzner 2021; Ruytenbeek et al. 2017). That being said, the different frequencies of positive and negative adjectives in linguistically negative environments in the FTTC dataset may also have been driven by the fact that, for some positive adjectives, such as *sympa* (the abbreviated form of *sympathique* ‘friendly’), an appropriate antonym might be less easily accessible. Regarding the use of a negated form such as *pas normal* instead of its corresponding antonym (*anormal*), interestingly, the former expression appears to be much more frequent than the latter (188 vs. 21 in the French dataset and 35 vs. 3 in the Belgian one). This observation suggests that *pas normal* gives rise to a strong ITA to the effect that is has almost replaced *anormal* in customer tweets addressed to the Belgian and French train operating companies, which are characterized by a moderate degree of informality. However, this is not necessarily the case of other frequently negated positive adjectives, such as *pas capable*, which was found to be less frequent than *incapable*. Furthermore, while the most frequently negated positive adjectives, such as *possible* and *normal*, are not contraries, but contradictories, a variety of counterexamples were found, such as *agréable* ‘pleasant’, *clair* ‘clear’, *sympa* ‘nice’, *chouette* ‘fun’, to only name a few.

Given the observation that customers of the railway companies are more likely to get in touch with the service managers when they are experiencing some kind of issue and make complaints or criticisms, these results are not surprising, as the number of tweets containing a negative evaluation are probably more frequent than tweets expressing a
positive attitude towards the company, e.g., compliments. It will be interesting to see, in future empirical research, if this tendency also applies to customer discourse that is more balanced in terms of negativity/positivity.

The results of this study also confirm the significant tendency observed in the CFPP2000 data, where positive adjectives were more frequent in the \( X \text{ is not very ADJ} \) (\( \text{pas très ADJ} \)) construction compared to negative adjectives. This effect appeared to be even more pronounced in the FTTC than in the CFPP2000 (with a positives to negatives ratio of 304/9 vs. 86/8, respectively). By contrast, unlike in the small-scale comparative analysis of the CFPP2000 addressed in Section 1, where no significant difference was found in terms of the frequency of positive vs. negative adjectives in the \( X \text{ is not ADJ} \) construction (18 vs. 26), in the FTTC corpus, positive adjectives largely outnumbered their negative counterparts (2964 vs. 243) \( (X^2 (1, N = 3207) = 2308.7, p < .0001) \). A remarkable difference concerns the very low frequency of \( X \text{ is not ADJ} \) in the CFPP2000 compared to the frequency of the same construction in the FTTC. A possible explanation for the comparatively high frequency of \( X \text{ is not ADJ} \) in the latter dataset has to do with the prevalence of criticism in the present data, a type of speech act that did not fit well with the conversational, interview-based register of the CFPP2000 data.

Based on the findings reported on in Section 4, I suggest that online customers produce utterances containing negated positive adjectives to kill (at least) two birds with one stone: while these negative constructions enable them to vent their negative emotions or to signal an issue with a product or service, the indirectness of the \( \text{pas ADJ} \) and \( \text{pas très ADJ} \) constructions also makes it possible for them to mitigate the negative impact of their criticisms for the service managers they are interacting with, and who they (sometimes explicitly) consider not to be responsible for the inconvenience caused. In addition, using sentential negation in combination with a positive adjective might be a way for customers to point to unmet expectations, as with what they take to constitute the normal level of service provision. The frequency analysis indicates that the constructions including negated positive adjectives mostly refer to the complainable and the negative emotions experienced by the customers.

6. Conclusions

In this study, I addressed two related research issues. First, I wanted to empirically validate the prediction that positive adjectives should occur more frequently under the scope of negation compared to negative adjectives. Because of the stronger ITA effects that have been demonstrated for positive adjectives and lower complexity for negated positive vs. negated negative adjectives, I anticipated that positives would be negated more frequently compared to their negative counterparts. Second, I was interested in knowing why online customers would make statements containing a negated positive adjective instead of a statement containing its negative antonym. Using corpus-based quantitative analyses, I found that positive adjectives are more frequently negated (with \( \text{pas} \)) than their negative counterparts. My results also show that relative to negative adjectives, positive adjectives more frequently occur with the complex negation \( \text{pas très} \). Generally speaking, the instances of \( X \text{ is not ADJ} \) outnumbered those of \( X \text{ is not very ADJ} \) in the dataset. As we have seen, for example, in the case of \( \text{pas normal} \), the negation of a positive evaluative adjective appears to be a productive strategy, in the sense that these negated adjectives can replace a number of simple negative adjectives in online customers’ usage.

The approach used in this study comes with several advantages. To begin with, it is based on authentic data that were compiled as a large corpus of tweets from a variety of users. In addition, the analyses were based on two subcorpora, i.e., a dataset of French tweets and one of Belgian French tweets. For these analyses, I also took care to select occurrences of adjectives in linguistically similar contexts. That being said, the approach taken here also has its limitations. To begin with, unlike in the case of contradictory antonymic adjectives, it is virtually impossible to be certain that a particular instance of a negated contrary adjective gives rise to an inference to its antonym, as the writer’s intention
can only be assessed indirectly. It is also difficult to know how an utterance containing a negated adjective would be understood by the recipient, as not all individuals are equally sensitive to this sort of optional inference. Second, I am aware that this study remains quite specific in several regards, such as the language (French), the platform (X), and the topic of the messages (commuters’ issues and questions). Future research will be necessary to generalize the methodology adopted here to other languages and platforms; more generally, ITA effects should also be investigated in other types of corpora.

A general limitation of recent experimental studies on ITA effects, such as Gotzner and Mazzarella (2024), Mazzarella and Gotzner (2021) and Ruytenbeek et al. (2017), is that ITA was measured for a relatively small set of antonymic pairs of adjectives. More research is needed to see whether the findings of these studies can be generalized to other antonymic adjectives, such as the most frequent ones in the FTTC; in addition to pas très ADJ, other synonymous and possibly less common negative constructions including an intensifier, such as pas super/hyper/trop ADJ should be investigated. It will also be important to carry out experimental studies about the interpretation of statements containing negated adjectives by different recipients, such as fellow users/customers vs. service managers. Finally, as the combination of an evaluatively positive adjective and a negation provides writers with a means to pinpoint expectations that have not been met, investigating the meaning of these negated adjectives will provide information about the type of services or products that are the most likely to give rise to disappointment.

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**Notes**

1. In July 2023, Elon Musk rebranded the social media platform Twitter as X following his acquisition of the company (Milmo 2023). Throughout this article, I will use the name Twitter since the data from the SNCB and the SNCB corpora was originally published online before the platform underwent its name change.

2. As users of Twitter sometimes omit accents when typing their messages, I also used pas tres (without the accent) as a search term for the sake of completeness.

3. The verb être (‘to be’) appeared not only in the present tense (X n’est pas ADJ, X n’étant pas ADJ), but also in the past, future and conditional tenses.

4. All the reported analyses were carried out using R version 4.2.1 (R Core Team 2021).

5. Cramer’s V is equal to .83 for the CFPP2000 data.

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