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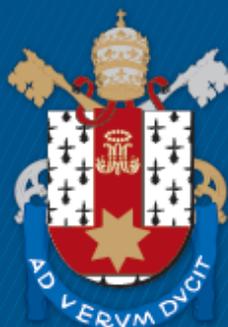
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HEDGING IN WRITING: AN ANALYSIS OF BUSINESS-RELATED SCIENTIFIC ARTICLES
WRITTEN IN ENGLISH BY BRAZILIANS AND NATIVE SPEAKERS OF ENGLISH

Porto Alegre
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PÓS-GRADUAÇÃO - *STRICTO SENSU*



Pontifícia Universidade Católica
do Rio Grande do Sul

PONTIFICAL CATHOLIC UNIVERSITY OF RIO GRANDE DO SUL
HUMANITIES SCHOOL – LETRAS

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ABSTRACT

English has become crucial for success in publishing scientific articles within the globalized academic world. Although English has become a Lingua Franca and, therefore, has been used to speak among people with different mother tongues who share English as a second language, the same openness is not found within scientific articles – which have a specific structure, regardless of the nationality of the writer. In light of this multicultural process, this thesis aims to provide scientific article writers with a theoretical outline about the relevance of cross-cultural and pragmatic knowledge when writing, especially regarding the use of hedging. This thesis was developed based on the hypothesis that some pragmatic features, specifically hedging, might transfer from a writer's first language (L1) to their second language (L2) and that such transfer would diminish their chances in successful publication of scientific articles in journals. In order to confirm this hypothesis, the following has been developed: first, a theoretical background has been presented, providing basis on pragmatic awareness, pragmatic transfer and multicultural communication. After, hedges and hedging strategies have been introduced and discussed, focusing on the differences between hedges and hedging, and the pragmatic effect that hedging causes. The following section describes the methodology and comprises the analysis of the introduction section of scientific articles produced by a native speaker (NS) and a non-native speaker (NNS), in this case a Brazilian. Both scientific articles are within the same area of knowledge, namely the business area. The aforementioned analysis and theoretical research support suggestions on how to rephrase categorical sentences found in the article written by a NNS. As a result, many instances were found where NNSs hedging is lacking, evidencing the necessity of an enhanced pragmatic awareness when a NNS writes a scientific article.

Key Words: Pragmatics. Hedging. Pragmatic transfer. Scientific article analysis.

RESUMO

A língua inglesa se tornou crucial para o sucesso em publicação de artigos científicos no atual mundo acadêmico globalizado. Embora o inglês tenha se tornado uma Língua Franca e, portanto, seja usado para falar com pessoas que possuem diferentes línguas maternas que compartilham o inglês como segunda língua, a mesma abertura não é encontrada em artigos científicos – os quais possuem uma estrutura específica, independente da nacionalidade do escritor. Considerando tal processo multicultural, esta dissertação objetiva prover a escritores de artigos científicos um referencial teórico sobre a relevância do conhecimento intercultural e pragmático durante a escrita, especialmente sobre o uso de estratégias de *hedging*. Esta dissertação foi desenvolvida baseada na hipótese de que algumas características pragmáticas, especificamente *hedging*, podem ser transferidas da primeira língua (L1) de um autor para sua segunda língua (L2) e que tal transferência poderia diminuir a possibilidade de publicação de artigos científicos em revistas acadêmicas. Para confirmar tal hipótese, foi desenvolvido: inicialmente, um referencial teórico foi apresentado, provendo bases teóricas sobre consciência pragmática, transferência pragmática e comunicação multicultural. Após, *hedges* e estratégias de *hedging* foram introduzidas e discutidas, focando nas diferenças entre *hedges* e *hedging*, e o efeito pragmático causado pelo uso de *hedging*. A seção seguinte descreve a metodologia e análise da seção de introdução de artigos científicos produzidos por um falante nativo (NS) e um falante não-nativo (NNS), neste caso um brasileiro. Ambos artigos científicos encontram-se dentro da mesma área de conhecimento, a área de negócios. A análise previamente mencionada e o referencial teórico baseiam sugestões sobre como reescrever frases categóricas encontradas no artigo escrito por um NNS. Como resultado, muitas ocorrências de falta de *hedging* por NNS foram encontradas, evidenciando a necessidade de uma maior consciência pragmática quando um autor NNS escreve artigos científicos.

Palavras-chave: Pragmática. *Hedging*. Transferência pragmática. Análise de artigo científico.

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LIST OF ABBREVIATIONS

ELF – English as a Lingua Franca

L1 - First Language

L2 – Second Language

NS – Native Speaker (we refer to NS as people who were born or grew up in a place where English is the native language)

NNS – Non-native Speaker (we refer to NNS as people who were born or grew up in a place where English is not the native language)

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1 INTRODUCTION

Learning English has become essential for non-native speakers (NNS, henceforth) if they want to publish in English-medium publications, which are predominant in the academic landscape. Chiefly in the academic area, English has grown to be the dominant language. As we will show throughout this thesis, pragmatic awareness may be essential for NNS, especially if they aim to publish their research in scientific journals.

Writing adequate academic English seems to be a prominent feature for people in academia, notably because of the following: a) English is the most spoken language in the world – although English is not the language with the largest number of native or first language (L1, hereafter) speakers – it has become a lingua franca (HARMER, 2001); b) most academic texts are only available in English and c) some publications ask for texts written by international contributors to be proofread by a native English speaker (MYERS, 2012).

The latter – the proofreading by native speakers (NS) – is the main motivation to the present research. More often than in general writing, academic texts are required to conform to certain rules – in particular if the author aims to have their research published. But it is not enough to be grammatically correct or to have optimal vocabulary, you have to be able to communicate your ideas and findings efficiently and, for that, it is not sufficient to be proficient, but also to understand particularities of the language. In this research, we will focus on pragmatic competence, focusing on hedges, in articles within the business area published in scientific journals.

Pragmatic competence is essential to non-native academic English writers, because English is increasingly being the main language in which knowledge is shared. Academics from a variety of countries, who have specific rules and norms, are challenged to write English appropriately. The divergence of these rules and norms, and those expected by native English readers, cause misunderstandings, misperceptions and, in consequence, constitute flawed communication - potentially harming chances of an article being published.

Because English is used in such divergent settings some misunderstandings and misconceptions are caused due to the unawareness of pragmatic features. Hedges are one of these features and perhaps the most important within an academic

context. Hedges may be used to weaken one's position regarding their statements. This may be beneficial to academic writing in order to welcome discussion and to avoid being understood as the sole proprietor of knowledge related to a certain area. Due to the fact that hedges, and their frequency of use, vary according to one's language background, if a NNS is not aware of how hedges are used when writing in English, it may render their text inadequate to a native audience.

The present research, then, is motivated by the need of a comprehensive analysis about how to be pragmatically competent when writing in a different language - in this case, English - in the business area. Also, according to preliminary analysis, there is a lack of focus on pragmatic errors that may arise when Brazilians write in English, such gap, if filled, could improve communication and understanding of business-focused Brazilian articles written in English.

Recently, the term 'English as a Lingua Franca' (ELF) has surfaced as a way to refer to communicative situations in English between speakers of different first languages. ELF interactions are quite common in the Business setting as English is the main language used by business professionals from various countries.

In the United Nations, and at all most international meetings, English is the most important working language. Business people use English for communication in many international trade discussions and, also, to write academic articles to a wider audience. Thus, compared with other languages, English is regarded as a global lingua franca (LARSEN-FREEMAN & FREEMAN, 2008; SKUTNABB-KANGAS, 2000; SKUTNABB-KANGAS & PHILLIPSON, 1995).

Nonetheless, our focus is on academic texts, which have specific norms and rules. Due to this fact, it hardly characterizes as a lingua franca interaction. Because texts have the nature of being a finished product, different from conversations, they do not allow for on-line negotiations with the reader, such as adaptations and changes, in reaction to the response of the reader. ELF interactions are more flexible and do not have such strict form and rules as academic articles, we do not oppose to different "Englishes" spoken by NNS – nor preach that people from different language backgrounds should have native-like English. However, this openness to different variants of English is not yet embraced by international scientific journals, hence our thesis being focused on articles published in scientific journals, which have stricter demands regarding the English language.

Martín-Martín (2015, p.201) states that: "studies which seek to investigate the question of whether the structure of academic texts from the same discipline but from different languages follow language-independent or language and culture-specific principles are still relatively lacking"

Our aim is to fill this gap with the present thesis. By analyzing a scientific article written in English by a Brazilian within the business area and comparing to a native-speaker's scientific article within the same area, therefore the same discipline, we aim to show that there are culture-specific principles. We will limit our analysis to hedging, that may seep through when writing in a second language (L2, henceforth), specifically English.

As research questions, we have elaborated the following: can the knowledge of the pragmatic aspects of hedging in English help Brazilian scientific writers, within the business scope, succeed in conveying their ideas? Can scientific articles written by a NNS be pragmatically improved – through the appropriate use of hedges – in order to be better understood by a NS?

Thus, we elicit the subsequent objectives to attempt answering those questions:

a) To provide a theoretical background on pragmatic awareness, focusing on writing and possible transfers from L1 to L2.

b) To describe hedging, how the concept has evolved, and how appropriate hedging may be beneficial to NNS writing scientific articles in English.

c) To analyze and compare a scientific article introduction section from a NS of English and one from a NNS – specifically, Brazilian – both pertaining to the business area.

d) To identify within both articles appropriate hedging and possibly suggest hedging that is lacking and could potentially pragmatically improve the articles.

In order to achieve these objectives our thesis will consist of three main chapters. The first chapter is a theoretical background aiming to define which pragmatic features will be focused on, in order to properly analyze texts regarding their pragmatic adequacy. Also, we will discuss academic writing and its particularities when written by a NNS.

The second chapter focuses on hedging, hedge categories, the pragmatic effect they cause, their particularities when used by a NNS and, principally, their frequent use in academic writing - presenting the advantages of using hedges in scientific

articles. Finally, we will reference some comparative data that compares the frequency and manner in which hedges are used by NNS in writing.

The third chapter will describe our methodology for the analysis of the scientific article introductions, followed by the analysis itself of a published article introduction section written in English by a Brazilian and one written by a NS, in order to highlight hedging by a NS and a NNS. Also, we will select sentences written by a Brazilian that could be improved through hedging, because if hedging is not adequate, comprehension may be harmed or cause the text to seem adamant. Next, we will present the theoretical basis of this thesis.

2 THEORETICAL BACKGROUND

Pragmatic competence is “the ability to use language appropriately in a social context” (TAGUCHI, 2009, p. 1). It will be approached due to culture being a decisive factor in producing and understanding texts. Especially within the scientific business area, cultural context of the discourse plays a key role in understanding the intended meaning, it is essential to be culturally aware in order to achieve successful communication.

Samovar and Porter (1997) emphasized that communication practices and behaviors of people from distinct cultures will inevitably vary due to their different perceptions of the world and the context in which they live. When people from different cultures communicate, an intercultural communication process takes place. Intercultural communication is “a transactional, symbolic process involving the attribution of meaning between people from different cultures” (GUDYKUNST & MODY, 2002, p.165).

Thus, pragmatic competence is essential to academics within the business area, because English is increasingly being written by people from a variety of countries, who have specific rules and norms that may transfer to their English writing. The divergence of these rules and norms can cause misunderstandings, misperceptions and, in consequence, constitute flawed communication. The knowledge on how to appropriately structure written communication - basic structures that are generally considered common-knowledge among native English writers - is difficult to master for a non-native speaker (NNS).

English as a Lingua Franca (ELF) is also profuse in academic settings. Academic communication in English performed by non-native English writers has become so frequent that scholars argue it is shaping English academic communication as native speakers (NS) do (MUR-DUEÑAS, 2017). Such engagement of NNS using ELF to publish their research in international English-medium publications could allow for discursive heterogeneity in international publications, favoring the participation of scholars in the (semi)periphery and not necessarily promoting core or centering publication practices (BENNET, 2014). However, the differences between the use made of English by NNSs and the use made by NSs when writing could prevent

successful publication outcomes. As there are Anglophone conventions that still prevail in international publication contexts. (MUR-DUEÑAS, 2017).

The dominance of English is unquestionable in the academic area, and it is even more evident in areas such as within business oriented articles, in which the success in publishing is highly influenced by their competence in appropriately employing the English language, even acting “as a career enabler or inhibitor” (Tietze, 2008, p.382). The business area can be considered highly internationalized (PETERSEN & SHAW, 2002), with frequently established networks among writers from different linguacultural backgrounds, who make use of the English language for publications. Due to the non-native English nature of a number of texts, some pragmatic features must be observed in order to be effective in writing. The knowledge and employment of these features is called pragmatic awareness and will be presented next.

2.1 PRAGMATIC AWARENESS

Pragmatics provides a distinctive way of looking at communicative situations. Verschueren (1999, p. 7) characterized pragmatics as “a general cognitive, social, and cultural perspective on linguistic phenomena in relation to their usage in forms of behavior.” Pragmatically analyzing discourse implies that “by each utterance a speaker [or writer] not only says something but also does certain things: giving information, stating a fact or hinting an attitude” (BYRAM, 2000, p. 477).

These forms of behavior and attitudes related to pragmatics are frequently originated from our own culture. Such particular features sometimes clash with those from different cultures; consequently, in order to be communicatively efficient, it is fundamental to be pragmatically aware. Bachman (1990) argued that pragmatic competence is one of the critical components that help L2 users to become communicatively competent. Thus, pragmatic awareness is indispensable for communicating ideas, whether orally or written.

Hou (2007) conducted a study which concluded that pragmatic failures cause misunderstandings and even extreme emotions (such as, prejudice and resentment) in cross-cultural communication scenarios. Such misunderstandings may cause communication failures and constitute obstacles to harmonious interpersonal relationships. Whence, if a person aims to communicate successfully in a cross-

cultural context, it is important to recognize and reduce pragmatic failures and to develop their pragmatic competence in an effective manner.

One of the most elementary problems that arise from being unaware of pragmatic features is the lack of conventional expressions that are “tacit agreements, which the members of a community presume to be shared by every reasonable co-member” (COULMAS, 1981, p. 4). Certain expressions or structures are frequently needed by speakers of English and, if not known, may render the conversation unnatural and even inadequate.

Such expressions and structures are so familiar and significant that they have been conventionalized in the target language. Consequently, for effective cross-cultural communication it is essential to be aware of those expressions and how NSs use them in writing. Not only basic expressions are affected by pragmatic awareness. Complex topics, such as constructive criticism, become difficult and prone to error if pragmatics is not considered. Studies have found that learners of English express their constructive criticism very differently from NSs. NNSs frequently employ modal verbs in an inappropriate manner and, for this reason, cause misunderstandings for not knowing which modal verb is best suited to the situation (NGUYEN, 2005, 2008).

Scientific article writers are frequently faced with the challenges of competent communication and being pragmatically aware can help them to understand NSs of English and their expectations related to their mother tongue in writing. In the business ambit, pragmatic awareness can boost communication and enhance the chance of publication in journals that accept submissions in English. A significant part of current business-themed scientific article production is written in English by a NNS and, in light of that, make relevant to employ pragmatic strategies to improve writing.

Usó-Juan and Martínez-Flor (2011) define pragmatic competence as the knowledge on how to express appropriate messages within the social and cultural context of communication in which they are produced. When pragmatic competence is mastered, one would be able to select and sequence utterances or sentences to produce a coherent and cohesive discourse with a particular purpose in a specific situational context.

Bearing this in mind, it is essential to highlight the importance of pragmatics in cross-cultural settings, because it specifically deals with the nature of communication

among people from different backgrounds and personal experiences. As will be seen in the following section, pragmatic awareness is also helpful when writing.

2.2 PRAGMATIC AWARENESS IN WRITING

Many article writers lack pragmatic knowledge on how to produce adequate writing, in a way that clearly conveys their intentions and ideas, while also considering how language is used in specific settings (BACHMANN & PALMER, 1996, 2010). It is not enough to know the English language to be successful in communicating with other English speakers. It is also paramount to be aware of certain particularities and structures that seem to be specific to each language. As Yuan (2012, p.16) states:

Pragmatics is needed for language users because they must understand the meaning conveyed by the words rather than the meaning of each individual word. [...] Pragmatics suggests what cannot be found in traditional linguistics and pragmatic methods assist people in understanding how to use language to better their communicative competence.

It is important to notice that these social situations vary from culture to culture and also have a different response depending on the nationality of the speaker. If pragmatically aware, a NNS would be able to prevent situations in which “individuals from two societies or communities carry out their interactions (whether spoken or written) according to their own rules or norms, often resulting in a clash in expectations and, ultimately, misperceptions about the other group” (BOXER, 2002, p.151). These misperceptions cause, many times, damages to the understanding of the reader and could even result in a failed attempt to publish an article in a journal or the successful conveyance of an idea in writing. Yuan (2012, p. 66) mentions that “as language and culture are closely interrelated, the ability to efficiently interact with people who are from different cultures is the key to achieving successful cross-cultural communication.”

English is the global medium of academic publications and is considered the default language of Science and academic research. Academic journals exemplify how predominant English has become. Ulrich’s Periodicals Directory (ULRICH, 2009) latest estimate is that the total of academic journals is 66,166; of those, 67% are published using some or all English. Due to the English dominance in the academic field,

scholars, translators and students face significant pressure to publish in English (LILLIS AND CURRY, 2010). Also, pragmatic awareness can be challenging for a NNS writing an article for submission to a scientific journal.

Writing in English is particularly demanding for writers who live in contexts where English is not the dominant or official language used for communication. Academic writing might be equivocally considered stripped of local patterns of language and independent of the social or cultural background of the writer. However, writing - including academic writing for publication - is a social practice (LILLIS AND CURRY, 2010). Written language is linked to the 'context of situation' and the 'context of culture' (MALINOWSKI, 1923). Written texts do not exist in isolation but are bound up with what people do – practices – in the social, material world. Also, there is the influence of everyday, routinized activities - such as writing - and their respective social structures in which they are both embedded and help to shape (LILLIS AND SCOTT, 2007).

Traditionally, it was assumed that certain areas of culture were universal, such as Science. Although there is some tolerance for individual stylistic variation, scientific texts impose a conformity on all members of the scientific community regardless of what language they use. In that manner, Scientific prose was believed to have specific and characteristic discourse structures and to be independent of its realization in a certain language. Nonetheless, contrastive rhetoricians affirm that the rhetorical structures of scientific texts in different languages may vary immensely due to cultural influences (MARTÍN-MARTÍN, 2015).

Kaplan (1966) observes that some grammatically correct texts written by NNSs failed to accommodate native English readers' expectations. Kaplan (1966) also describes fundamental structures expected in an expository paragraph in English: beginning with a topic statement, followed by a series of subdivisions of that topic statement, each supported by illustrations and examples. Such statements relate clearly to the central idea of the text; alternatively, a series of examples may be given in the first place and then followed by a final topic statement. Such structures represent inductive and deductive reasoning which are naturally expected by a native English reader in any formal communication.

As writing is not merely a skill – but a cognitive activity which is culturally-determined and entails a complex breadth of knowledge, specifically: semantic, formal,

and social (PURVES AND PURVES, 1986) – rhetorical transfer may occur from the L1, encompassing pragmatic, cognitive, and sociocultural dimensions of language. Contrary to early beliefs, these transfers are not limited to lexical, grammatical, and syntactic elements; but also include discourse structures and stylistic choices, which constitute culturally-determined rhetorical preferences and conventions (DAVIES, 2003).

Such transfers can be even more evident and potentially harmful in academic writing. According to Muñoz-Luna (2015), strong academic writers do not translate from their mother tongue. Translation from/to L1 is viable in beginner levels but inadequate for proficient writers. The influences of L1 in English are recurrent for native Portuguese writers due to the differences in academic text types. Continental tradition – which includes Portuguese from Portugal, that eventually stemmed Brazilian Portuguese – is more philosophical, interpretative, epistemological, and digressive; anglo-saxon writing, that comprises the English language, is linear, empirical, and to the point (RIENECKER & JÖRGENSEN, 2003).

According to Grabe and Kaplan (1996, p. 200), contrastive rhetoric focuses on seven types of knowledge essential when writing:

- (a) knowledge of rhetorical patterns of arrangement and the relative frequency of various patterns (e.g. exposition, argument, classification, definition, and the like);
- (b) knowledge of composing conventions and strategies needed to generate text (e.g. pre-writing, data-collection, and revision);
- (c) knowledge of the morphosyntax of the target language, particularly as it applies to the intersentential level;
- (d) knowledge of the coherence-creating mechanisms of the target language
- (e) knowledge of the writing conventions of the target language in the sense of both frequency and distribution of types and text appearance (e.g. letter, essay);
- (f) knowledge of the audience characteristics and expectations in the target culture;
- (g) knowledge of the subject to be discussed, including both what everyone knows in the target culture and specialist knowledge.

Our analysis of texts will regard primarily proposition ‘F’, as it will prioritize the knowledge inherent to the audience and what expectations regarding hedging have to be met in the target language in order to have optimal written communication. These expectations can be met by being pragmatically competent, which includes “the critical language awareness of how discourse shapes and is shaped by power relations, identity, and ideologies in the target culture” (CHEN, 2006, p.36).

The focus on the pragmatic aspect of writing is not unreasoned. It is renowned nowadays that acquiring effective pragmatic knowledge of the second language is a significant facet of the second language learning process (HAUGH, 2007). Avoiding pragmatic failure by being aware of pragmatic aspects has been highlighted by a plethora of academics working in the field (CHEN, 2010; HINKEL, 2009; HYLAND, 1994; HYLAND & MILTON, 1997; PARVARESH et al., 2012).

Hedging also varies according to the culture where a language is written. Hinkel (2009) affirms that the culturally-determined use of modals as hedges and politeness devices are paramount in any act of writing, since there are cases that author and reader do not share the same social or cultural expectations and norms. The ability to develop a piece of writing that is pragmatically adequate is therefore essential due to the differences in writing conventions in the writer's L1 and L2. These writing conventions may transfer from a writer's L1 to their L2, as evidenced in the subsequent section.

When writing academically in English as L2, some properties from the L1 inevitably transfer to the academic discourse. Even in an encapsulated writing style, such as the academic, certain features that are strongly embedded in one's writing may appear in the text. As Hyland (2012, p. 2) argued "a key element of the context of a text and the rationale of a genre; they help to shape the ways it is structured and the choices of content and style it makes available". Academic discourse is rooted in local traditions and those might differ from social and discursive norms in the Anglo-American system (DUSZAC, 1997).

Such deviations from the expected discursive patterns in a target language may be symptomatic of the underlying structures and forms which are characteristic of the academic tradition in the writer's native culture. The traditional view of "standard English" has been gradually changing over the last few years. However, native speakership is still viewed as "the benchmark against which the linguistic proficiency of non-native speakers is assessed, which also includes the area of academic discourse" (CHOVANEC, 2013). Despite the recent empowerment of non-native language users through ELF, it is still seen, as used by NNSs, as a creative use of the language in its own right. Such creative use might be frowned upon by NS and, consequently, journals, when reviewing an article for publication.

Mauranen (2012) argues that the ownership of language has expanded to communities of NNSs who use ELF in their encounters with each other. However, this does not mean that the concepts of correctness have become outdated. It is true that among ELF speakers the interactions are more permissive of linguistic imperfections, despite such fact, the model of NS level proficiency (or Standard English correctness) is present even in those interactions - although sometimes, implicitly (CHOVANEK, 2013). ELF speakers might not have the same cultural background, though there may be shared cultural identities and expectations related to target language speakers and English-speaking countries. Those 'inner circle' countries are compared by learners to their own cultural background for contrast, comparison and to create models of target appropriateness (MAURANEN, 2012).

The previously mentioned inner circle is comprised of countries where English is the native language – such as, the United States, the United Kingdom, New Zealand, Australia and Canada. The outer circle is composed by countries where English is considered a second language, used frequently in conjunction with the native language, examples of that would be India, Nigeria, Bangladesh and Pakistan. There is also an expanding circle, bigger than the outer one, which consists of countries where English is used as a foreign language, as in China, Japan and Indonesia (KACHRU, 1992).

Linguistic, rhetorical and genre norms are expected and actively enforced in written academic discourse. Even though editors tend to be supportive of NNSs texts, basing their editorial decisions on content rather than incorrect language use, research articles often are referred to proofreading and language editing services in order to comply with the expectations and linguistic standards of English publications. Myers (2012, p.149) exemplifies that by sharing a story of when he was asked by an editor to submit his article to a native speaker so he could correct some “oddities in style as the result of second language interference.” Such interferences from other languages are often missing articles, inconsistent tense, unidiomatic prepositions, among others. (CHOVANEK, 2013).

Research on academic discourse is positioned at the intersection of several major approaches, including, but not limited to: rhetorical structure, cross-cultural communication, and Pragmatics. Also, as stressed by Chovanec, (2013, p.9):

Academic discourse is far from uniform, Gotti locates its realizations at the intersection of numerous factors such as local culture, disciplinary field, generic conventions, community membership, language competence, professional expertise and even gender. Writing in the English-dominated global context, scholars have been found not only to adapt to Anglo-centric models but also to show resistance in the textual strategies through which they construct their identity. It is stressed that academic genres manifest a degree of flexibility that allows authors to negotiate their position in specific socio-professional contexts rather than to adhere to the strict formal requirements of particular genres.

It appears that the authors may present transversal identities, marking their influence from various cultures (professional, ethnic-geographic, ideological). Such marked influences may cause intercultural clashes that may result in hybridizing forms of concrete textual realizations. Editing, proofreading or simple awareness of target norms in the global discourse community may curb the transfer of some features of textual organization from their native academic culture. Being aware of different styles and genres of written academic discourse in English may help scholars publish in renowned scientific journals. Developing sensitivity to different styles, cultivating the ability to switch between styles and enhancing the formulation of written messages in order to be maximally effective and taking into account the context of the target culture/situation/audience is of paramount importance.

Even experienced academics writing in English may face problems when composing academic texts, as non-native writers possess a more limited rhetorical and linguistic repertoire - such as certain discourse markers - when compared to their native counterparts. Such limitations might have been caused by explicit schooling, resulting in an excessive or incorrect use of certain forms of writing. Also, there is the unconscious transfer of certain patterns and forms from their native language or cultural traditions. It is not clear which of those departures from the expected discourse are marked as non-conforming to the international academic community's discourse norms (CHOVANEK, 2013). Hedging conventions are a prominent feature that may transfer from a writer's L1 to their L2. In the following chapter, we will discuss this specific feature, which is the main focus of our posterior article analysis.

3 HEDGING

Hedges have been discussed for a fairly long time. Weinreich (1966) was one of the first scholars to write about it; he called hedges “metalinguistic operators”, arguing that: “for every language “metalinguistic operators” such as (in) English “true”, “real”, “so-called”, “strictly speaking”, and the most powerful extrapolator of all, “like”, function as instructions for the loose or strict interpretation of designata.” (p.163).

However, Lakoff (1975) had the greatest impact and is regarded as having popularized the concept. Lakoff suggested that trying to limit truth conditions for sentences in natural language as true, false or “nonsense” would be a distortion of natural language concepts due to portraying them as having sharp limited boundaries, as opposed to their actual vagueness. He declared that: “some of the most interesting questions are raised by the study of words which meaning implicitly involves fuzziness – words whose job it is to make things fuzzier or less fuzzy. (LAKOFF, 1975, p. 195).

The concept of hedge has widened significantly throughout the years, it departed from the simple notion of ‘fuzziness’ and began to encompass notions such as the modification of commitment to the truth of propositions. Some authors, such as Prince, Fraser and Bosk (1982) adopted even different categorizations to the ‘fuzziness’ hedge proposed by Lakoff (1975), according to them, hedges may be considered approximators (e.g. His feet were sort of blue) and shields (e.g. I think his feet were blue). Even further away from the original concept of hedge are the approaches that treat hedges as a realization of an interactional strategy called hedging.

Hedging strategies are not always marked by hedges, they can be performed by a multitude of “contextualizers” that vary from lexical expressions, to prosody, to paralinguistic signs (YUQI, 2011). Markannen and Schroder (1997, p. 6), argue that “almost any linguistic item or expression may be interpreted as a hedge”. Also, hedges are multifunctional devices (CAFFI, 2007; KALTENBOCK, 2010), therefore, they do not always represent the same type of hedging, varying according to context, intent and interpretation. The hedging effect can be accomplished through several mechanisms, because hedging, different from hedges, is a purely functional approach, thus there are no limits regarding which linguistic expressions may be considered hedges. Also, hedging may be different consonant to the language in which is being

used, hardly any classification is capable of encompassing all the linguistic aspects of hedging.

Lakoff was mostly concerned with hedges, not hedging - he also offered some examples of hedges in English:

real, regular, actually, almost, as it were, basically, can be view as, crypto-, especially, essentially, exceptionally, for the most part, in a manner of speaking, in a real sense, in a sense, in a way, kind of, largely, literally, loosely speaking, more or less, mostly, often, on the tall side, par excellence, particularly, pretty much, principally, pseudo-, quintessentially, rather, really, relatively, roughly, so to say, somewhat, sort of, strictly speaking, technically, typically, very, virtually" (Lakoff, 1975. p.195).

Also, Lakoff showed that the interpretation of hedges depends on the context in which it is used and that hedging is not a semantic phenomenon, but a pragmatic one.

Later, Brown and Levinson (1987, p.145-146) described hedge as: "a particle, word, or phrase that modifies the degree of membership of a predicate or noun phrase in a set; it says of that membership that it is partial, or true only in certain respect; or that it is more true and complete than perhaps might be expected".

Fraser (2010, p.24) offers some current examples of hedges in English. Those will be presented in the following page:

Table 1 – List of Hedges

a) Adverbs/Adjectives - approximately, roughly, about, often, occasionally, generally,... - e.g., he looks sort of sick.
b) Impersonal pronouns - one, it,... - e.g., one can imagine that.
c) Concessive conjunctions - although, though, while, whereas, even though, even if,... - e.g., even though you dislike the beach, it's worth going for the view.
d) Hedged performative - use of modal to hedge performative verb - e.g., I must ask you to sit down.
e) Indirect Speech Acts - e.g., could you speak a little louder?
f) Introductory phrases - I believe, to our knowledge, it is our view that, we feel that,... - e.g., I believe that he should go, if possible.
g) Modal adverbs - perhaps, possibly, probably, practically, presumably, apparently,... - e.g., I can possibly do that.
h) Modal adjectives - possible, probable, un/likely, . . . - e.g., it is possible that something would happen.
i) Modal noun - assumption, claim, possibility, estimate, suggestion, . . . - e.g., the assumption here is that everyone is guilty.
j) Modal verbs - might, can, would, could, . . . - e.g., John might leave now.
k) Epistemic verbs - to seem, to appear, to believe, to assume, to suggest, . . . - e.g., it seems that he would like that.
l) Negative question convey positive hedged assertion - e.g., didn't Harry leave? [I think Harry left], I don't think I'm going. vs. I'm not going. [Former hedges the meaning of latter] .
m) Reversal tag - e.g., he's coming, isn't he? [I think he's coming].
n) Agentless Passive - e.g., many of the troops were injured.
o) Conditional subordinators - such as as long as, so long as, assuming that, given that - e.g., unless the strike has been called off, there will be no trains tomorrow.
p) Progressive form - e.g., I am hoping you will come.
q) Tentative Inference - e.g., the mountains should be visible from here.
r) Conditional clause refers to the condition under which the speaker makes the utterance - e.g., if you're going my way, I need a lift back.
s) Metalinguistic comment such as (strictly speaking, so to say, exactly, almost, just about) - e.g., he has an idea, a hypothesis, if you will, that you may find interesting.

Source: Fraser (2010, p. 24)

Kaltenböck (2010) points out that the term hedge is used mostly for approximative and attenuating expressions, instead of being used for more imprecise hedges, such as ‘strictly speaking’, and intensifier expressions. Fraser (2010), affirms that in the beginning of the study of hedges, the notion of boosters was considered as part of hedging, but recent studies do not consider boosting to be the main type of hedges.

Hedge has been considered in recent studies as a linguistic device that modifies the strength (weakening or strengthening) and the truth value of a sentence, reducing the risk taken by a writer when writing a strong statement within texts aiming for publication (KALTENBÖCK, MIHATSCH; SCHNEIDER, 2010, p.1).

Previously, hedges were seen as marginal elements, sometimes even redundant, barely contributing to communication. Due to a number of linguistic research conducted, hedging is now considered a crucial device when writing or speaking. The hedging phenomena has been approached in research in several different perspectives, such as speech acts and politeness (ex. FRASER, 1975, 1980; BROWN e LEVINSON, 1978, 1987; WIERZBICKA, 2006; TERRASCHKE e HOLMES, 2007; ITAKURA, 2013), specific genre investigations (ex. MARKKANEN e SCHRÖDER, 1992, 1997; BENKHEDDA, 2010), vagueness (ex. CHANNELL, 1994; CUTTING, 2007; ZHANG, 2004, 2011), interactional pragmatics (ex. JUCKER *et al.* 2003; KÄRKKÄINEN, 2003; FETZER, 2011), and a plethora of others.

The use of hedges can cause several effects: it may render a proposition vague, as in “*it appears that it can cause confusion*”; it may result in evasion, for example in “*as far as I can tell, it can be confusing*”; it can make a proposition politer, such as “*make it less confusing, if you can manage it*”. Hedging in American culture (and likely many others) is necessary and adequate in many circumstances; although Americans view themselves as being straightforward, this is a myth when it comes to hedging. One may be considered impolite, arrogant or even offensive if they are not able to successfully perform and interpret hedges (Fraser, 2010).

The definition of hedge is quite heterogeneous. Apparently, there is no consensus of a strict definition of the term. For the purpose of our analysis on the final part of the thesis, we will use Yuqi’s (2011, p.34, free translation¹) definition, which

¹ Original text: “Os itens funcionais, lexicais e estruturais que especificamente existem em um determinado sistema linguístico, modificando o valor de compromisso do enunciado e a força ilocucionária do sujeito falante em consideração às estratégias comunicativas.” (YUQI, 2011, p. 34).

describes hedges as “the functional, lexical and structural items that exist specifically within a certain linguistic system, modifying the level of commitment and the illocutionary force exerted by the speaker according to the communicative strategies”.

Austin (1975) proposed five categories regarding illocutionary acts (veridictives, exercitives, commissives, expositives, and behavitives), however, as Searle (1975) points out, these lists classify English illocutionary verbs instead of illocutionary acts. Searle (1975, p. 348) has clarified the concept of illocutionary acts by defining them as:

differences in the force or strength with which the illocutionary point is presented. Both ‘I suggest we go to the movies’ and ‘I insist that we go to the movies’ have the same illocutionary point, but it is presented with different strengths, analogously with ‘I solemnly swear that Bill stole the money’ and ‘I guess Bill stole the money.’ Along the same dimension of illocutionary point or purpose there may be varying degrees of strength or commitment

Also, it is important to highlight that: a) hedges, by themselves, do not have vague meaning, but their presence renders a sentence somewhat imprecise; b) hedges do not modify the literal meaning of a sentence, but modify their truth value and the illocutionary force of the writer; c) hedges are specific to a certain linguistic system, therefore, the level of vagueness that a word (expression or structure) has or that it may lend to a sentence changes depending on the language used (YUQI, 2011, p.34, free translation, adapted).¹

As their definition, categories of hedges are not clear and precise. Generally, by what could be perceived through bibliographical research, each author uses the categories that better fit their research, some even going as far as creating new ones or bundling previously separate categories. Some of the most cited categorizations are Zadeh’s (1972), who divides hedges in: some adjectives and adverbs (sort of, usually, recently), words with suffixes (-ish, -likely, -ly), phrases (if, so, that), sentences (I think, I guess, as far as I can tell). Prince, Frader & Bosk (1982) distinguished hedges in two main groups: approximators and shields. The first modifies semantic content, while the

¹ Original text: “a) Hedges por si só, não têm necessariamente um significado vago, mas a presença deles faz com que o enunciado fique mais ou menos impreciso; b) Hedges não modificam o sentido literal dos enunciados, mas modificam o valor de verdade da fala e a força ilocucionária do interlocutor; c) Hedges são os elementos específicos em um determinado sistema linguístico, ou seja, o grau de vaguidade que uma palavra (ou expressão, ou tipo de estrutura) tem ou que ela consegue dar para o enunciado varia na tradução em o utras línguas;.” (YUQI, 2011, p. 34).

latter take the speaker's role in order to prevent compromising the truthfulness of the sentence.

While early classifications are relevant and seminal to the research on hedges, newer distinctions of hedges seem to better classify them, thus being more appropriate to be employed in current research. When analyzing the texts, we will be guided by YUQI's (2011, p. 57-59, adapted) proposed classification of hedges, which is configured in the following manner:

- a) hedges as discourse markers: more common in oral communication, these are highly common in daily interaction (e.g.: *I guess* the weather is nice. You think the same, *right?*);
- b) presuppositional hedges: the user of the hedge presupposes a future event or consequence due to a fact that has happened (e.g.: *It seems that* hedges are important. *It should* be relevant to study them. If I *had* more time, I *would use* to study them).
- c) declarative hedges: modify the truthfulness level and semantic content of a proposition, in order to accurately inform the reader (e.g.: I'm *almost* certain of it. *Sometimes* it happens to native speakers. It is *practically* common sense).
- d) suggestive hedges: also more used orally (but somewhat frequent in writing), these occur when a speaker gives suggestions, asks for favors or describes their obligations - in order to diminish face-threatening: (e.g.: *could* you lend me your book? *Maybe* you should try researching more. I *should have* come to this conclusion earlier).
- e) positional hedges: evidence the information source or person responsible for a certain opinion (e.g.: *If I'm not mistaken*, pragmatics is important. *In my opinion*, hedges are relevant. *It has been said* that hedges are important).
- f) emotional hedges: have the function of representing, in a certain way, a speaker's emotion in an imprecise way. They frequently include the use of diminutives, that do not refer to the literal size of anything. (e.g. I have a *tiny little* uncertainty over this).

It is important to highlight that a hedge may be in more than one category, in such cases we will classify it according to its predominant function. However, our main goal is not to classify hedges, but to analyze how they are employed differently by ENL writers and non-ENL writers. Even so, it may be helpful to categorize hedges in order

to clarify their intention and effect within the text. Also, it is likely that not all categories of hedges described by Yuqi (2011) will be present in academic writing, due to the fact that some types of hedging rarely occur in scientific articles, such as type *f*.

The cause for using hedges, especially in academic texts, is the willingness to preserve a positive image of the writer. This image is related to the 'face' conception. The collective sentiment in a certain cultural community is associated to the notion of 'face' (GOFFMAN, 1967). Brown and Levinson (1987, p. 62) divided the notion of 'face' in 'positive face' and 'negative face', the first one refers to a person's desire of their acts not being prevented by others and 'negative face' to a person's individual desire that their acts be recognized by at least some of the others.

In order to avoid face-threatening acts Brown and Levinson (1987) suggest two politeness strategies: positive politeness and negative politeness, which correspond to positive and negative face. Positive politeness emphasizes the closeness or mutual benefit of both parties, while negative politeness creates distance between two people in a conversation. Both types of politeness can be considered as face-working and hedges are more frequently used in negative politeness strategies (YUQI, 2011).

The concept of 'face working' is frequently associated to hedging, although it is not the only effect that may arise through hedging, because by employing hedges a writer is less prone to deal with face-threatening situations that might be harmful to comprehension or acceptance by the reader. The employment of hedges can cause intensification or weaken the force of scientific affirmations, reducing both the risk of opposition and face-threatening in academic production. The two main functions of hedging devices are: allowing scientific writers to represent their research concepts and results accurately; while making it easier for the academic community (journals, in special) to accept and contribute to the knowledge shared within the text (HYLAND, 1996). Hedging is widely renowned as important in academic writing, especially in texts written in English (YUQI & LOPES-PERNA, 2015). However, when NNS attempt to write in English they face difficulties regarding the employment of hedges, as we will discuss in the following section.

Within pragmatic competence - which is the ability to fully convey an intended message in multiple socio-cultural contexts and to interpret messages as they were intended, notwithstanding which culture or society your interlocutor might have come from - a critical area for a second-language speaker is hedging. Hedging is a rhetorical

strategy that attenuates the semantic value of a particular expression, as in “sort of nice”, or the force of a speech act, such as in “I must ask you to stop doing that” (FRASER, 2010).

Failing to produce or understand hedges appropriately constitutes a fundamental flaw in a second-language speakers’ abilities. When a NNS fails in hedging according to a fluent reader’s expectation they may seem impolite, arrogant, inappropriate or even offensive. Also, failing to understand hedging may cause a misunderstanding of the native speaker’s intended meaning. It is common for native speakers to expect a person who has good grammatical skills, to have also mastered pragmatic features, such as hedging - however, that is not always the case.

Even when NNS are aware of hedges in writing, it may be difficult to master the skill of claim modulation due to the inaccurate belief that writing in English requires linear, direct arguments and that those arguments are weakened when one hedges their statement in writing (WISHNOFF, 2000). In consequence, writers become overly direct and are often deemed inappropriate by native readers. Academic prose can be challenging for L2 writers since they need to engage with knowledge in a different manner from those of their first language (KIM & LIM, 2015).

Algi (2012) argues that each culture has their own pragmatic rules regarding the use of hedging devices and culture defines “what we may, and may not say, when and where we say it, to whom we say it, and why we say it” (WISHNOFF, 2000, p.120). Linguistic knowledge alone is not enough to allow appropriately modulated claims, it seems to be equally important to be pragmatically competent “in using modality as a resource for negotiating knowledge claims and conveying a stance towards one’s claims and readers” (KIM & LIM, 2015, p. 606). Therefore, the use of hedges in L2 academic writing appears to be paramount in order to appropriately manage statements for mitigation, accuracy and claim negotiation.

Yuqi (2015) performed a quantitative research comparing the use of hedges in Portuguese, English and Chinese. As the first two are of utmost importance to this thesis, due to the transfer that may occur from (Brazilian) Portuguese to English academic texts, we will mention some of her relevant findings: regarding different written languages, Yuqi (2015) found out that texts written in English have a higher number of hedges than Portuguese (and Chinese) - that seems to be a consistent finding. Falahati’s (2008) research concluded that English research articles have a

higher number of hedges than Iranian ones. Also, among all types of hedging, the effect of attenuation is more frequent than intensifiers. Furthermore, affirmative hedges are the most produced hedge, and it occurs more in English than in Portuguese. Finally, her research showed that both pragmatic acquisition and translinguistic influence are complex processes. The different hedging strategies are influenced by several factors in different contexts.

Hyland (2008) proposes an interactional model of voice, characterizing hedging as part of stance¹. Through voice and stance, Hyland shows that the ability to hedge appropriately is fundamental for writers to be considered proficient, mature, and to have their ideas accepted by their readers. Recently, Yoon (2016) developed a computerized model of voice that evidenced a significant positive correlation between hedges and overall writing quality in L2 essays in English, hence their importance for adequate academic writing.

Academic texts are no longer considered as stripped of bias and as neutral accounts of factual information, but rather as constructed rhetorical artifacts which aim at persuading and negotiating with the reader. Although scientific texts, as any other form of communication, are supposed to be rational and should obey rules of everyday communication (such as form being inseparable from content), rhetorical strategies such as persuasion are also fundamental ingredients for the enactment of discourse (MUSA, 2014). Thus, hedging may be a useful rhetorical resource to academic writers, not serving as decorative features, but rather as an important feature of academic writing.

Early on, Hyland (1998) argued that hedges in academic writing imply that a certain statement is based on plausible reasoning rather than undoubtedly correct knowledge, allowing readers the freedom to dispute, argue and expand it. Academic writing is pragmatically sophisticated and abundantly permeated by hedges (WISHNOFF, 2000, p.122).

The use of hedging enables academic writers to fittingly modulate their claims while also making possible for the reader to engage in a dialog. There are pragmatic

¹ "Stance [...] can be seen as an attitudinal dimension and includes features which refer to the ways writers present themselves and convey their judgements, opinions, and commitments. It is the ways that writers intrude to stamp their personal authority onto their arguments or step back and disguise their involvement." (HYLAND, 2005, p.176)

consequences when a hedge is used (either adequately or inadequately) and when it is lacking (or overused). By hedging, the writer seems to invite the reader to make contributions, avoiding the feeling that there is a definitive answer and that the theme of the text has been exhausted. Hyland (1996) commented that hedging solicits collusion by addressing the reader as a capable, intelligent colleague that has the ability of participating in the discourse with an open mind.

Beyond focusing on academic writing, our focus is to analyze texts within a certain area of knowledge, namely business texts published in scientific journals. Regarding the use of hedges in scientific business texts Mur-Dueñas (2011, p. 307) argues that:

Especially in a soft discipline like Business Management, variables are endless and results are rather provisional as they can be dependent on the data and/or measures used. As a result, there is a strong need to express findings and conclusions tentatively so that peers, (and perhaps also professionals who may be interested in the implications of the research) are convinced of the research reported. The statistically significant lower use of hedges in the Spanish RAs [research articles] (126.7 vs. 200.1 tokens per 10,000 words) indicates that Spanish scholars in this discipline do not seem to acknowledge the provisional nature of their results in their RAs to the same degree as their peers publishing internationally in English.

As Spanish is a romance language, with Latin roots, much like Portuguese, it seems logical to conclude that there should be some resemblance in the frequency of hedging in these languages. It can be seen that Spanish writers hedge less than English ones. We expect that this will also occur from Portuguese to English written by Portuguese native-speakers. Hedging causes the conclusions and findings to remain open to discussion and will allow academic peers to trust the reported data. For these reasons, hedging is distinctively necessary in Business articles that aim to be published in journals. Due to the pragmatic nature of our thesis, we will predominantly analyze hedging, which discusses the effect of the use of hedges and not hedges by themselves, which would be more fitting for a thesis of syntactic or semantic nature. In the next chapter, we will describe the methodology employed for the selection, and subsequently analyze the introduction of a scientific article in English written by a Brazilian and one written by a NS.

4 ANALYSIS OF THE INTRODUCTION SECTION OF SCIENTIFIC ARTICLES

In this chapter, we will outline our methodology for the analysis of the texts and present our analysis. First, we will describe our criteria for the selection of the articles and how they were analyzed. We selected the scientific articles only considering articles that were published in academic journals. The NS text is in the *Strategy Science Journal*, which seeks to publish research dealing with the challenges of strategic management in both business and non-business organizations, the journal is managed by INFORMS which is the leading international association for operations research and analytics professionals. The NNS text has been published by RAUSP, which is a business journal managed by USP (Sao Paulo University), the journal aims to disseminate research and ideas that add value to the work of scholars and management professionals.

After that, we researched the authors, in order to ensure that one article was authored by NSs of English (Americans, in this case) and the other was written by NNSs of English (Brazilians, specifically). After combing through more than ten articles of each type – natively written in English and written in English by a Brazilian, respectively – we selected two articles that were the most similar we can find regarding the topic they covered. Both articles are within the business scope of themes and deal with the main topic of demand. Demand is a principle within the business area, which states that lower prices might drive people to buy more goods or services while higher prices usually diminishes purchase intent by the costumers.

Although it would be incremental to find more articles to compare, due to the difficulty of finding articles that roughly discussed the same subject we decided to limit our analysis to the following two: “Permanent demand excess as business strategy: an analysis of the Brazilian higher-education market” (ANDRADE, MOITA & SILVA, 2014) and “Value Gaps and Profitability” (HARBORNE & STUART, 2016). Both articles are available for reference in the Annexes section.

Next, we meticulously read both articles in order to find and highlight hedging strategies used (or lacking) in both. Through this reading, and what we could perceive by reading the other articles read in order to select these, we uncovered, intuitively, that the introduction section would benefit the most from the appropriate use of hedges, since readers might feel preached to if the text is exceedingly inflexible; such feeling

could cause the unwillingness to read further and potentially come across as arrogant in a blind review of an article.

The analysis was conducted based on the previously described theoretical framework. Taking into consideration pragmatic aspects, cultural differences, hedging strategies and differences in hedging from culture to culture. By reason of our aim in comparing articles with the semantic fields as analogous as possible, it would not be feasible to perform a quantitative analysis. In consequence, we chose to perform a qualitative analysis.

The qualitative analysis endeavors to understand and explore the authors' experiences, attitudes, behaviors and interactions (FRAENKEL AND WALLEN, 2000). Also, it has the goal to consider meaning types, characteristics and organizational aspects of scientific articles as social products in their own right, as well as what they claim to represent (ALTHEIDE, 1996). Such approach is outstandingly relevant in our analysis, due to the aim of understanding "[...]the underlying motivations (i.e. discourse functions) of the use of [the] hedges in the rhetorical context[s] of [the] Introduction section" (MUSA, 2014, p.11).

4.1 ANALYSIS OF A SCIENTIFIC ARTICLE WRITTEN BY A NS

Our analysis begins with the scientific article produced by a NS. We limited our analysis to highlighting hedging and analyzing its adequacy, aiming to have a basis to analyze the article written by a Brazilian (NNS) afterwards. The excerpts are organized in the order they appear in the text; the structures considered by us as hedging are in italics.

"Pricing power, *when it exists*, is solely the consequence of competition." (STUART JR & HARBORNE, 2015, p.56). In this sentence, 'when it exists' limits the reach of the affirmation, making it more accurate and less all-encompassing. We consider this an adequate use of hedging, because it prevents the affirmation of being untruthful, because saying that pricing power always exists would be a hard claim to corroborate and prove.

"This approach is *often* chosen for one of two reasons." (STUART JR & HARBORNE, 2015, p.56). This is the first case of the use of 'often' as a hedging structure, many more were found, and it clearly mitigates the claim, by making it come

across as a trend and not an immutable reality. Therefore, we assume that this is an appropriate use of hedging, causing the sentence to be more verisimilar.

“First, *in many contexts*—particularly those with business-to-business interactions—a preliminary assumption of price-setting power *may* not be appropriate.” (STUART JR & HARBORNE, 2015, p.56). In this excerpt, we identified two hedging instances. First, ‘in many contexts’ serves the purpose of delimiting the extent of the affirmation, making it more appropriate for a scientific article, which should prevent unsubstantiated claims. Second, ‘may’, which is a modal frequently used in hedging, appears to have a function of avoiding giving the impression that their finding is the only approach possible. In our opinion, both uses are appropriate and their exclusion could render the sentences arrogant.

“Second, the strategy field is *often* interested in providing insights that are applicable in a broad range of contexts.” (STUART JR & HARBORNE, 2015, p.56). Again, the author uses ‘often’ in order to mitigate his claim, making it less inflexible to the reader. Such use appears to be appropriate, as it allows other researchers to be comfortable with the possibility of other answers and different realities in different markets.

“Because a value-based analysis focuses on the economic structure of a context—e.g., buyers’ preferences and firms’ costs—rather than on specific moves and countermoves, the analysis *often* produces such insights.” (STUART JR & HARBORNE, 2015, p.56). The author uses ‘often’ once more as a hedging device. The effect is similar to the other sentences in which it was used, but is also eminently being used to mitigate the claim that a certain type of analysis would always end with the same outcome. Such use feels appropriate to us, because it hampers the affirmation of sounding stringent.

“A primary example is the importance of a firm’s value creation with a buyer, *often* variously described as the firm’s value gap, value proposition, or value stick.” (STUART JR & HARBORNE, 2015, p.56). ‘Often’ is used one more time in this excerpt in order to allow for other denominations for ‘the importance of a firm’s value creation with a buyer’, as it does not probably have a naming consensus in the scientific community. This use is considered adequate by us, as it grants the reader the notion that this naming scheme is not the only one in use and that there is a possibility of their previous knowledge of a different one.

“Simple intuition *suggests* that being better than one’s competitors *should be* a predictable route to profitability, and the value-based literature shows that a proper measure of “better” is not having a better product or a lower cost.” (STUART JR & HARBORNE, 2015, p.56). We consider ‘suggests’ as hedging here, as it limits the strength of the claim, making it more appropriate for a scientific article. ‘Should be’ is another frequent modal used in hedging. In this case, it acknowledges that the described outcome is not the only one possible. Both are relevant uses of hedging in scientific production, conceding that there is no definitive answer yet.

“Rather, to be better, a firm *should* have a larger value gap—that is, a value-gap advantage.” (STUART JR & HARBORNE, 2015, p.56). ‘Should’ indicates that having a larger value gap is not indispensable. Rather, it is an advice based on the author’s research. To us, this is a convenient use of hedging, because it limits the responsibility of the author’s claim, in case a company with a smaller value gap is successful. Again, opportune use of hedging, in order for the authors to not be adamant with their findings.

“The results in this paper *suggest* a positive answer, provided that a value-gap advantage is appropriately defined.” (STUART JR & HARBORNE, 2015, p.57). ‘Suggest’ is also used in this sentence, the effect it causes is limiting the author’s claim. It avoids being too rigid, which could possibly restrain research with different results from being made. Such use is opportune, especially in a scientific article.

“But the notion of a value-gap advantage *should be* a comparison between the firm’s marginal value creation with the buyer—its value gap—and the buyer’s best alternative for value capture.” (STUART JR & HARBORNE, 2015, p.57). The modal ‘should’ is again employed with hedging intentions in this sentence. It causes the sentence to come across as a suggestion of comparison, instead of a rule. It seems to be a pertinent use of hedging, allowing openness for future and possibly different research approaches.

“First, firms *often* do not have constant marginal costs.” (STUART JR & HARBORNE, 2015, p.57). Through the repeated use of ‘often’ by the author, we can see that this is possibly his preferred hedging structure in order to sound less authoritative. The effect achieved is purporting that there may be a trend, but it is not immutable when talking about different firms. Once more, the use seems to be appropriate, from our standpoint.

“Because of the absence of *ex ante* assumptions about price-setting power, a value-based analysis will *typically* provide a range of possible profits for a firm, rather than a single number.” (STUART JR & HARBORNE, 2015, p.57). The use of ‘possibly’ in this sentence has the same consequence as ‘often’ in the last sentence. It signals a trend and not a fixed statement. Making it fitting for a scientific article that has one approach, while assuring that other approaches are feasible.

“With capacity constraints, firms *can* have buyers competing for them, and this buyer competition *can* guarantee the firm a price above marginal cost.” (STUART JR & HARBORNE, 2015, p.57). ‘Can’ in both instances has the effect of highlighting a possibility and not an indelible truth. These hedging occurrences, in our opinion, create the required uncertainty that those claims require in a scientific article.

“*Intuitively*, the presence of an excluded buyer allows a firm to credibly demand a higher price from its customers.” (STUART JR & HARBORNE, 2015, p.57). We consider “intuitively’ hedging in this sentence because it allows the author to give his opinion, which while unsubstantiated, is valid in a scientific article. This proper modulation of the claim may be responsible for the reader’s accurate perception of it being an opinion and not a scientifically researched fact.

“First, a competitor’s buyer *may* act as a source of excess demand for a given firm.” (STUART JR & HARBORNE, 2015, p.57). The modal ‘may’ acts again as a hedging device in this sentence, it grants the effect of limiting the author’s claim, by making the sentence be understood as a probability and not as an unchangeable result. Such use is appropriate, as it prevents face-threatening occurrences towards the author.

“The *intuition* is that the competitor’s buyer *would* prefer to transact with a given firm, but because that firm is at capacity, it cannot.” (STUART JR & HARBORNE, 2015, p.57). ‘Intuition’ causes the same effect as ‘intuitively’, seen previously in our analysis. It clarifies that this is an author’s opinion, not necessarily based on scientific research. Also, ‘will’ is considered a hedging device, since it serves the purpose of describing a possibility, making the sentence more accurate. Both are adequate uses of hedging, in our view, because they make the text clear and modulate the claim of the author, respectively.

“The second issue that arises with buyer competition is that a given firm *can* benefit from a competitor’s excluded or envious buyer.” (STUART JR & HARBORNE,

2015, p.57). The hedging in this sentence is caused by the modal 'can'. It limits the author's claim, which if replaced with 'will' would be too inflexible and possibly create an arrogant image of the writer.

"*In extreme cases, a firm can be guaranteed a profit due to excess demand for a totally unrelated product.*" (STUART JR & HARBORNE, 2015, p.57). The modal 'can' is again used as a hedging structure in this sentence, it appropriately describes the unlikely possibility that the author is referring to.

"However, no buyer *in this example* would ever view firm A and firm C as substitutes." (STUART JR & HARBORNE, 2015, p.57). 'In this example' accurately limits the reach of the affirmation, elucidating that only in this specific example the consequence would be the one described by the author.

"Thus, with the *possibility* of excluded or envious buyers due to nonconstant marginal costs, linkages in buyer preferences become important." (STUART JR & HARBORNE, 2015, p.57). This hedging instance is almost self-explanatory. It serves the purpose of declaring that the author is describing a likelihood and not a frequent, rigid occurrence.

"*Informally*, the results show that a firm's potential profits are based on value-gap advantages with its customers, and its guaranteed profits are based on value-gap advantages with noncustomers." (STUART JR & HARBORNE, 2015, p.57). 'Informally' causes a hedging effect because it serves as a disclaimer that the author is not describing the results in a formal manner. It is appropriate, since in a scientific article the expected approach is usually the formal one. If 'informally' was excluded, it could mislead the reader or make them misunderstand the author, possibly causing a face-threatening instance.

"The *possibility* of envious buyers and market-price effects complicates the assessment of value-gap advantages, but it is important to note that the results do *suggest* the following robust advice on a firm's positioning decision:[...]" (STUART JR & HARBORNE, 2015, p.57). The author uses 'possibility' once more to clarify that the described situation is not omnipresent in firms, however, it is possible. We also consider this an opportune use of hedging.

"Demand is *assumed* to be unitary, but there are no other restrictions on buyer preferences." (STUART JR & HARBORNE, 2015, p.58). 'Assumed' conveys the uncertainty required for the accurate writing of the sentence, representing an

assumption – rather than an immutable outcome – of the author. Such use is adequate, as the exclusion of the hedging device could cause the reader to wonder if the author was unaware of other approaches to demand.

“*There is a sense* in which potential profitability is about being needed—in terms of value creation—by either a firm or the market as a whole. Proposition 4 makes this notion more precise.” (STUART JR & HARBORNE, 2015, p.58). The author is presenting a notion in an ample manner, therefore he uses ‘there is a sense’ to introduce the concept broadly, before defining it more precisely later in the text.

Next, we will present the analysis of the introduction section of a scientific article written by a NNS, in this case Brazilian, while highlighting uses of hedging and instances where, based on our previous research, hedging is lacking or could be incremental.

4.2 ANALYSIS OF A SCIENTIFIC ARTICLE WRITTEN BY A NNS

In this section, we will present the analysis of the introduction section of a scientific article written by a Brazilian. We aimed to highlight every instance where hedging appeared in the text and also make suggestions on how to make the text more appropriate for a scientific audience. Such suggestions were made based on our intuition, guided by our theoretical research. The sentences analyzed are presented in the order they appeared in the text.

“In the higher-education market, this principle *does not* hold” (MOITA & ANDRADE, 2015, p.10). In the very beginning of the introduction, the authors start to make definite claims, it may come across arrogantly and cause the disinterest of the reader in their article. By using ‘does not hold’, a very strong statement, it feels that the author has researched the higher-education market in every country and situation existent. That is theoretically unlikely, making the claim inaccurate and seemingly face-threatening. We would suggest rewriting it in the following manner ‘[...] this principle generally does not hold’.

“Instead, *many* higher-education institutions (HEIs) limit the number of available slots to *guarantee* permanent excess demand.” (MOITA & ANDRADE, 2015, p.10). In this instance, the author appropriately modulated his claim by using ‘many’, conveying that frequently the institutions limit the number of slots, rather than stating that all of

them employ this strategy. Such use is accurate, because it prevents face-threatening towards the author and possibly causes a positive impression on the reader, who is assured that the author acknowledges that there may be other strategies.

“The same phenomenon *can* be observed in other markets, especially service markets, but the rationale behind excess demand in higher education *does not* apply to restaurants or large events.” (MOITA & ANDRADE, 2015, p.10)

“As consequence, the quality of the output *is* a function of the quality of the student body.” (MOITA & ANDRADE, 2015, p.10)

“The Brazilian market for HEIs is *predominantly* composed by private enterprises.” (MOITA & ANDRADE, 2015, p.10). ‘Predominantly’ is used as hedging in this excerpt, because it appropriately limits the claim, making it accurate and verisimilar. If not used, the sentence would convey the false impression that Brazil only has private institutions of higher education.

“Additionally, *the majority* of private HEIs (52%) are for profit (2006 Higher Education Census – Ministry of Education).” (MOITA & ANDRADE, 2015, p.10). Although the authors employed ‘the majority’ as a hedging strategy, intuitively it is inadequate. Technically, it is the majority, but the word majority seems to falsely lead the reader to think that it is an overwhelming majority. It could be more accurate to phrase it as follows: ‘[...] there are slightly more private institutions for profit, than non-profit ones’.

“Despite the lack of official data on the amount of donations received by HEIs, *it is known* that the resources derived from this source *are* limited, as *are* the resources available to fund research.” (MOITA & ANDRADE, 2015, p.10)

“Those are little known outside their area and, although they charge low tuitions, *have* empty slots.” (MOITA & ANDRADE, 2015, p.10). ‘Have’ comes across as a bold and possibly imprecise affirmation. It is unlikely that all institutions that charge low tuitions have empty slots. It would be better written, according to our research, as: ‘[...] frequently have empty slots’, by hedging through the use of ‘frequently’ the claim would be better modulated, rendering the text more suitable for the scientific public.

“Through two adaptations of the ideas of Becker (1991), we *attempt* to explain why some HEIs maintain permanent excess demand while others do not.” (MOITA & ANDRADE, 2015, p.10). ‘Attempt’ is properly employed in this sentence to transmit the idea as an attempt, rather than a categorical explanation. It probably enhances the

chances of the reader having the notion that the authors are open to different interpretations.

“The relevance of the quality of the student body *justifies* the strategy of an HEI that opts for excess demand and *confirms* the theory that will be developed in the next section: demand for the school *hinges on* the quality of the students and, ultimately, responds positively to the selectivity imposed by the HEI.” (MOITA & ANDRADE, 2015, p.10). ‘Justifies’, ‘confirms’, and ‘hinges on’ seem to be adamant for the introduction of the article. We perceive the following rewriting as a better alternative: ‘[...]student body *likely justifies* the strategy of an HEI that opts for excess demand and *supports* the theory that will be developed in the next section: demand for the school, *among other factors, depends on* the quality [...]’. All of those changes would better modulate the claims of the author through the use of hedging. The rewritten version might transpose into a better perception of the author by the reader, possibly enhancing the chances of publication.

“This total, which surpasses R\$ 5 million (or US\$ 3.14 million – 7.6% of the revenue) per year, *can* be understood as an investment in differentiation.” (MOITA & ANDRADE, 2015, p.10). In this sentence, ‘can’ is adequately used to convey the message that the author is aware that there are other justifications for the investment described.

“The higher education market is especially appropriated for this study because there is data about *all* the candidates, including those students that failed in the selecting process.” (MOITA & ANDRADE, 2015, p.10). Even though this statement is probably accurate, the writing might come across as presumptuous. It is feasible that the data about some candidates may be lost, wrongly sourced, or unreliable; due to this fact, we suggest rewriting as follows would be more appropriate: ‘[...] there is data about virtually every candidate [...]. Hedging the statement with ‘virtually’ would make it less authoritative and, consequently, diminish the chances of face-threatening towards the authors.

“Ehrenberg (2004) presents a review of this literature, corroborating *the notion* that a higher tuition and fewer financial incentives, such as scholarships, reduce the motivation to study at an HEI.” (MOITA & ANDRADE, 2015, p.11). The notion ‘auspiciously transmits the idea of a trend and not a definite affirmation. Such hedging,

in our opinion, is appropriate for a scientific paper, describing the claim made by the author with adequate strength.

“Other characteristics that *may* affect student preferences are less studied.” (MOITA & ANDRADE, 2015, p.11). In this sentence, ‘may’ is once more used to modulate the authors’ claim. If excluded, it would make the sentence too categorical, affirming that there are other characteristics which are less studied. The hedging performed by ‘may’ in this sentence is adequate, due to the possibility that other characteristics would not affect student’s preferences.

“The results are *not conclusive*: Belzi and Hansen find a positive correlation between risk and the decision to attend college, while other authors found a negative relationship.” (MOITA & ANDRADE, 2015, p.11). The disclaimer ‘not conclusive’ acts as hedging, because it entails that the results found to this date have not found congruent answers. Because of the mixed research results, such hedging is necessary in order for the authors to clarify their dissonant findings.

“*Implicitly*, we *assume* that business administration is not a substitute with other courses, such as biology or engineering.” (MOITA & ANDRADE, 2015, p.11). Both instances of hedging are relevant to the sentence. ‘Implicitly’, assures the reader that there is no explicit information on the research that supports the affirmation, while ‘assume’ makes it even clearer that the claim is an assumption made by the authors based on their research. In the following section, we will discuss the analysis made in this chapter and describe our final considerations regarding this thesis.

5 DISCUSSION AND FINAL CONSIDERATIONS

In this section, we will first discuss the results of our analysis of both article introductions, giving an overview of the introduction section of both articles, especially the lack of hedging in the sentences highlighted by us within the NNS introduction. After, we will present our final considerations for this thesis as a whole.

After reading both article introductions thoroughly, we could perceive a more pervasive use of hedging in the NS's text. Although there were definite, strong sentences in the NS text, they were almost always supported by data or bibliographical research. In general, the introductory text of a NS felt much more open and less categorical, especially in the first three paragraphs.

On the other hand, in the NNS text, we could find instances of categorical statements in the very beginning of the introduction, which could cause a reader or reviewer to feel unwilling to read the rest of the article. Throughout the introduction, there were several more occurrences of lacking hedging structures. Not all instances highlighted by us were extremely harmful, there were a few – especially due to their location in the beginning of the introduction – which could cause misperceptions of the authors by the readers.

Also, we did not select all instances of hedging or lack thereof, but we chose what seemed relevant based on our theoretical research and subsequent explanation of hedging. Not all categorical sentences are inadequate in a scientific article, but the introduction is an initial text, that could cause a reader to feel uninterested in the article, if hedging is not observed.

Overall, the Brazilian text is not unfit for publication, but we defend that it would be more in-line with the expectations of a NS if the highlighted sentences were rewritten as suggested. As we described in the theoretical background, although English is viewed as a direct language, hedging is frequent in both spoken and written texts – even more, in scientific articles. The main reason for a more pervasive use of hedging in the NNS text is to soften face threatening acts, avoiding situations where the reader might have a negative opinion on the author, ultimately threatening the positive face, leading the reader to believe that the author does not care about the reader's feelings.

As final considerations, we conclude that learning English is not enough to be successful in writing scientific articles. Proofreading by a NS in order to adequate the text to NSs “norms” is proof that, although a text might be grammatically correct, pragmatic awareness is of eminent importance in scientific writing, especially regarding hedging. The mere careful consideration of hedging structures and its use in a scientific article could make it more prone to publication and more pleasurable to the reader.

Although ELF is being extensively described as having flexible norms and a disregard for grammatical and even pragmatic mistakes, we did not find support for this in academic article production. ELF is perfectly acceptable in daily conversations and informal situations. Academic texts, such as scientific articles, have specific norms, which are still observed nowadays.

Most of the material we found, focused on hedges and its categorizations, which are valid approaches, but were not our focus. Intuitively, we can perceive that hedging frequency and adequacy changes from language to language. Therefore, it would be feasible to assume that some of these hedging characteristics transfer from a L1 to a L2.

However, there is a need for a more comprehensive future analysis in order to find actual data to support the aforementioned assumption, as we were unable to prove a direct relation between the use of hedging and an author’s native language. As a suggestion, it might be incremental to analyze a higher number of scientific articles, maybe even performing a quantitative analysis per section. Also, we suggest the analysis of articles before they are submitted to journals, because they would be more organic, without corrections and proofreading – possibly better exemplifying inadequate hedging and even more pragmatic features that could transfer from a L1.

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ANNEX A – ARTICLE INTRODUCTION WRITTEN BY AN AMERICAN

Value Gaps and Profitability¹

1. INTRODUCTION

The value-based approach to business strategy models a business' competitive context without *ex ante* assumptions about the price-setting power of players, particularly firms. Pricing power, when it exists, is solely the consequence of competition. This approach is often chosen for one of two reasons. First, in many contexts—particularly those with business-to-business interactions—a preliminary assumption of price-setting power may not be appropriate. Second, the strategy field is often interested in providing insights that are applicable in a broad range of contexts. Because a value-based analysis focuses on the economic structure of a context—e.g., buyers' preferences and firms' costs—rather than on specific moves and countermoves, the analysis often produces such insights. A primary example is the importance of a firm's value creation with a buyer, often variously described as the firm's value gap, value proposition, or value stick. Simple intuition suggests that being better than one's competitors should be a predictable route to profitability, and the value-based literature shows that a proper measure of "better" is not having a better product or a lower cost. Rather, to be better, a firm should have a larger value gap—that is, a value-gap advantage.

The reasoning behind this intuition is straightforward. To successfully compete for a buyer, a firm must feasibly deliver more value capture to the buyer than any other competitor can. The firm that provides the buyer with the largest value gap will always be able to do this. As well as being intuitive, this reasoning provides a succinct characterization of a firm's positioning decision: to be profitable, choose products that give the firm value-gap advantages in identifiable buyer segments.

When firms have constant marginal costs, value-gap reasoning is well-defined. A firm's value creation with a given buyer is unambiguously its marginal value creation with the buyer, and the buyer's best alternative for value capture with a competing firm is unambiguously the buyer's best alternative for value creation. Determining value-gap advantages with respect to a buyer (or segment of buyers) is, then, a simple matter of comparing the marginal value creation that a buyer creates with the different firms,

¹ STUART JR, H.W. Value gaps and profitability. *Strategy Science*, v. 1, n. 1, p. 56-70, 2015.

and these advantages completely determine a firm's range of possible profits (see Stuart 2004, Lemma 3).

In this paper, we address the question of whether value-gap reasoning holds more generally. In the absence of constant marginal costs, is it still the case that a firm's value creation with a buyer is the foundation for its profitability? The results in this paper suggest a positive answer, provided that a value-gap advantage is appropriately defined. We show that the foundation for understanding a firm's profitability is, in fact, its marginal value creation with a buyer. But the notion of a value-gap advantage should be a comparison between the firm's marginal value creation with the buyer—its value gap—and the buyer's best alternative for value capture. Using this definition of a value-gap advantage, we show that a firm's range of possible profits is based on its value-gap advantages with respect to both its buyers and its competitors' buyers.

At a technical level, this paper relaxes the assumption that firms have constant marginal costs. This assumption has enabled meaningful analyses in the value-based literature, including, for example, Adner and Zemsky (2006) on the sustainability of profitability, Chatain and Zemsky (2007) on horizontal scope, and Jia (2013) on relationship-specific investments. (Papers discussing the conceptual foundations of the value-based approach include Brandenburger and Stuart 1996, 2007; Stuart 2001; MacDonald and Ryall 2004; and Ryall et al. 2009.) There are at least two reasons to relax this assumption. First, firms often do not have constant marginal costs. In particular, this assumption precludes scale effects. Second, and more importantly, the assumption of constant marginal costs implies that no firm is guaranteed any profits. Because of the absence of *ex ante* assumptions about price-setting power, a value-based analysis will typically provide a range of possible profits for a firm, rather than a single number. Following Edgeworth (1881), the minimum of the range describes the profits that the firm is guaranteed to capture due to the effects of competition. The difference between the minimum and the maximum represents a residual bargaining problem, the resolution of which depends on factors other than competition. With constant marginal costs, buyers do not have to compete for firms, and so a firm is not guaranteed any profit. A key feature of many markets—competition guaranteeing profits to firms—has been assumed away.

If firms have more general cost functions, capacity constraints become possible. With capacity constraints, firms can have buyers competing for them, and this buyer competition can guarantee the firm a price above marginal cost. For a complete understanding of a firm's guaranteed profitability, then, one must understand the sources of buyer competition.

The simplest example of buyer competition is excess demand for a firm's product (see, for example, Kaneko 1976). Intuitively, the presence of an excluded buyer allows a firm to credibly demand a higher price from its customers. However, our results show two additional issues arise with buyer competition. First, a competitor's buyer may act as a source of excess demand for a given firm. We call such buyers envious buyers. The intuition is that the competitor's buyer would prefer to transact with a given firm, but because that firm is at capacity, it cannot. If a firm has an excluded or envious buyer, it will be guaranteed a price above its marginal cost.

The second issue that arises with buyer competition is that a given firm can benefit from a competitor's excluded or envious buyer. In extreme cases, a firm can be guaranteed a profit due to excess demand for a totally unrelated product. For instance, if one segment of buyers is interested in, say, only firm A or firm B, another in only firm B or firm C, and a third in only firm C, then an excluded or envious buyer of firm C will benefit firm A. However, no buyer in this example would ever view firm A and firm C as substitutes. Thus, with the possibility of excluded or envious buyers due to nonconstant marginal costs, linkages in buyer preferences become important. We call the consequences of these linkages market-price effects.

The main results can be stated as follows. To have the potential for profits, a firm must have buyers with the following property: the firm's value gap with the buyer must be greater than the buyer's maximum possible value capture with any other firm. To be guaranteed a profit, either a firm must have a marginal cost that exceeds its average cost, or there must be an unserved buyer or a competitor's buyer with the following property: the buyer's maximum possible value capture must be less than the value it could create with the firm. Informally, the results show that a firm's potential profits are based on value-gap advantages with its customers, and its guaranteed profits are based on value-gap advantages with noncustomers.

The possibility of envious buyers and market-price effects complicates the assessment of value-gap advantages, but it is important to note that the results do

suggest the following robust advice on a firm's positioning decision: choose products that give the firm the largest marginal value creation in identifiable buyer segments, and limit capacity such that at least one of the buyers in the identified segments is excluded from the firm. This advice will always guarantee a profit for a firm.

In §2, we provide examples illustrating the main results. The first example uses constant marginal costs to discuss firm profitability in the absence of capacity constraints. The second is a standard commodity example to review the role of an excluded buyer in guaranteeing profits to a firm. The third introduces envious-buyer and market-price effects.

Section 3 contains the model and results. The model can be viewed as a generalization of either the Cournot results in Kaneko (1976) or the spatial competition results in Stuart (2004). (Telser 1972, Section V uses a similar model in discussing collusion versus cooperation; Kaneko and Yamamoto 1986 provide an existence result with slightly more restrictive cost functions.) Demand is assumed to be unitary, but there are no other restrictions on buyer preferences. Cost functions are general, except that we impose some structure to ensure that competition leads to stable outcomes. The results in §3 follow the sequence of examples in §2. Proposition 1 addresses contexts without capacity constraints, as demonstrated in Example 1. Proposition 2 describes the effect of excluded and envious buyers on guaranteed profitability, as shown in Examples 2 and 3. Proposition 3 characterizes a firm's potential profitability and refers back to Examples 2 and 3. There is a sense in which potential profitability is about being needed—in terms of value creation—by either a firm or the market as a whole. Proposition 4 makes this notion more precise.

One implication of Proposition 2 is that a firm's guaranteed profitability does not depend on the preferences of its own buyers. Rather, it depends upon the preferences of excluded buyers and competitors' buyers. In §4, we explore some of the implications of this fact, as well as some implications for empirical investigation. The paper concludes with a brief summary of the main results.

ANNEX B – ARTICLE INTRODUCTION WRITTEN BY A BRAZILIAN

Permanent demand excess as business strategy: an analysis of the Brazilian higher-education market¹

1. INTRODUCTION

Microeconomics manuals teach that, in equilibrium, the amount demanded for a good or service must equal the amount supplied. In the higher-education market, this principle does not hold. Instead, many higher-education institutions (HEIs) limit the number of available slots to guarantee permanent excess demand. The same phenomenon can be observed in other markets, especially service markets, but the rationale behind excess demand in higher education does not apply to restaurants or large events. In education, the student is not only the consumer, but also he or she is a factor of production. As consequence, the quality of the output is a function of the quality of the student body. For this reason, given the characteristics of HEI and the quantity of available slots, the institution charges tuition below equilibrium price to increase the quantity of appliers and, thus, to bene t from greater selectivity.

The Brazilian market for HEIs is predominantly composed by private enterprises. Among 2.281 HEIs in 2006, 89% were private, and 74.6% of all students were enrolled in these private schools. Additionally, the majority of private HEIs (52%) are for pro t (2006 Higher Education Census – Ministry of Education). Despite the lack of official data on the amount of donations received by HEIs, it is known that the resources derived from this source are limited, as are the resources available to fund research. In this context, most Brazilian private HEIs primarily raise funds from student tuition payments. Those are little known outside their area and, although they charge low tuitions, have empty slots. They coexist with some HEIs with good reputation, which charge high tuitions and have hotly disputed selection processes. Among private Business Administration schools in São Paulo in 2006, for example, the fees range from R\$ 170 to R\$ 2.250 (or from US\$ 106 to US\$ 1,415(1)), and the ratio of candidates to slots ranges from 0.17 to 11.5.

The sector has been going through substantial transformation over the last years. There has been a large increase in the number of students enrolled in higher

¹ MOITA, R. M. S.; ANDRADE, E. D. C. Permanent demand excess as business strategy: an analysis of the Brazilian higher-education market. *Revista de Administração*, São Paulo, v. 50, n. 1, p. 9-25, 2015.

education: from 1.3 million in 1995 to 3.8 million students in 2003 and 7.0 million in 2012 (2012 Higher Education Census – Ministry of Education). Despite the consistent growth observed over the last decades, there has been a substantial slowdown in the growth rate. The number of enrolled students more than tripled from 1995 to 2003, while it less than doubled from 2003 to 2012.

The players and their size have also changed. A fast consolidation process has taken place, with some large educational groups (Anhanguera, Estacio and Kroton, among others) buying local institutions. So, the observed trend nowadays is from a market with local and independent HEIs to a market dominated by large chains. Kroton and Anhanguera had 11% of the Brazilian market in 2011, and 14% in 2012, which means a growth of 27% in one year. However, the majority of supply still comes from local and independent institutions.

This article analyzes the HEI market and attempts to answer four interrelated questions:

- How do we theoretically understand the existence of the HEI that opts for the strategy of maintaining permanent excess demand?
- Which HEIs' characteristics affect the demand for their business courses?
- How big is the group of HEIs that really invest in selectivity?
- How much revenue does the HEI give up to increase the selectivity of its admissions process and, consequently, the quality of its students?

Through two adaptations of the ideas of Becker (1991), we attempt to explain why some HEIs maintain permanent excess demand while others do not. Next, using a database of business schools in the state of São Paulo⁽²⁾ (see section 3 for a detailed description of the dataset) we estimate the demand for higher education. The empirical results show that the quality of the student body, the tuition, and the quality of the lecturers are relevant in determining the demand of the market. The relevance of the quality of the student body justifies the strategy of an HEI that opts for excess demand and confirms the theory that will be developed in the next section: demand for the school hinges on the quality of the students and, ultimately, responds positively to the selectivity imposed by the HEI. Finally, using the results of econometric models, we present the total "investment" in selectivity made by São Paulo HEIs in their business programs. This total, which surpasses R\$ 5 million (or US\$ 3.14 million – 7.6% of the revenue) per year, can be understood as an investment in differentiation.

While Becker (1991) theoretically shows why some restaurants having long queues for tables do not raise prices, this paper estimates the “investment on queues”. The higher education market is especially appropriated for this study because there is data about all the candidates, including those students that failed in the selecting process. In a restaurant- -market context, it would be as if we knew the numbers of clients and the number of people who give up eating at a given restaurant because of its long queues.

The selection of better students in higher education is well documented by literature, but how to measure its impact on the education output is a controversial question (see Winston & Zimmerman, 2003). Instead of measuring this effect, the focus of this work is to better understand how the existence of those effects modifies the market equilibrium. Thus, we estimate (a) on one side, how the selectivity of HEIs (considering the quality of incoming students as a proxy) affects the demand curve, and (b) on the other side, how much the HEIs invest in selectivity to maximize their long term profits by maintaining permanent excess demand.

There is a broad and well-established literature that studies the decision to pursue college education, with emphasis on the impact of tuition on college decision. An earlier study by Bishop (1977) analyzes the decisions of high school students. He found that tuition has a more severe negative impact on lower income groups. Ehrenberg (2004) presents a review of this literature, corroborating the notion that a higher tuition and fewer financial incentives, such as scholarships, reduce the motivation to study at an HEI. Other characteristics that may affect student preferences are less studied.

Another branch of this literature (Belzil & Hansen, 2002; Hartog & Diaz-Serrano, 2007; among others) analyzes higher education as an investment, and how earnings risk affects students' choice. The results are not conclusive: Belzi and Hansen find a positive correlation between risk and the decision to attend college, while other authors find a negative relationship.

Four papers follow this line of research and are closely related to our study. Gallego and Hernando (2008) also use a discrete choice model in Chilean high schools to estimate the effects of the voucher system on student well-being and socio- -economic segregation. Monks and Ehrenberg (1999) use panel data to evaluate the impact on the demand for universities of the U.S. News and World Report rankings,

the most traditional ranking in the U.S market. They conclude that a lower position in the ranking is detrimental to the university: fewer accepted students decide to enroll; the quality of new classes decreases, as measured by the admissions test; and the net tuition paid by the student is lower because the university has to be more generous in granting financial aid to attract students from the smaller group of applicants.

Long (2004) examines how different cohorts of students in the United States choose which HEI to attend based on their own characteristics and those of the HEI, such as tuition, quality of the student body, percentage of lecturers with doctorates and student/lecturer ratio. Long's study concludes that the quality of the faculty is the most important factor in the student's decision, a result we also find here.

Kelchtermans and Verboven (2009) study college choice in the Belgium region of Flandres. They conclude that courses are close substitutes, and that a tuition increase would not affect the decision of whether to study but affect the decision of where to study.

Flannery and O'Donoghue (2013) use a nested logit model with three choices: to attend college, to work or to work and study part time. They recognize two key features. First, college choice is a discrete choice problem where tuition and college quality variables are important in students' choices. Second, there is a trade off between studying and working.

Other papers – such as Frenette (2009), Chowdry, Crawford, Dearden, Goodman, and Vignoles (2010), Spiess and Wrohlich (2010), among many others – investigate different aspects that affect college attendance. Despite the fact that all these papers also estimate a demand for educational institutions, the details of the method we employ and our goals are quite distinct from the others. We chose to restrict our analysis to business administration courses only. Implicitly, we assume that business administration is not a substitute with other courses, such as biology or engineering. Moreover, our final goal is both to identify the group of HEIs that invest in selectivity and to estimate the investment.

The rest of this article is organized as follows. In the next section, we discuss why a HEI could use the strategy to operate with excess demand. Sections 3 and 4 explain the methodology and data employed. The results are presented in Section 5. The final section concludes the analysis.