THE CASE OF TASK-ORIENTED, *POLITE* DISCOURSE IN INTERCULTURAL AVIATION AND CUSTOMER SERVICE INTERACTIONS

ERIC FRIGINAL

THE HONG KONG POLYTECHNIC UNIVERSITY

ABSTRACT

This paper explores the combined linguistic characteristics of talk in customer service and aviation, based on specialized corpora of interactions between customer service representatives (or agents) and their callers, and groups of pilots communicating with their respective air traffic controllers. Both specialized corpora, Cross-Cultural Aeronautical Communication Corpus (CCACC) and Corpus of Outsourced Customer Service Calls (Co-CSC) are annotated across socio-cultural structures and task dimensions of interaction in these two settings, focusing especially upon speakers' first language background (L1), role-relationships, discoursal goals and objectives, and cultural identities. A multi-dimensional analytical approach developed by Biber (1988), together with pre-identified linguistic features from Friginal (2009, 2013a) is used to analyze the characteristics of outsourced call center and aviation discourse in general, and in particular, culture-specific differences between speakers' utterances. Implications related to language policy and culture-based training for agents and pilots, future correlational studies, and the sustainability of these two industries are discussed along an applied corpus linguistics framework (ACL).

CONTACT

Eric Friginal, Department of English and Communication, Faculty of Humanities, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong SAR China. eric.friginal@polyu.edu.hk

ORCID

0000-0001-5956-3674

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1. Introduction

Corpus linguistics (CL) is primarily a methodological research approach to the study of languages, discourse structures, patterns, and usage (Biber et al., 2010). Corpora serve as datasets of 'systematically collected, naturally-occurring registers of texts' (Friginal & Hardy, 2014, p. 20), which are electronically stored, analyzed, and utilized for a variety of purposes. The use of corpora has become a popular approach in the quantitative analysis of the linguistic characteristics of written and spoken language as well as various sub-registers such as oral communication in the workplace. Bowker and Pearson (2002) identify four primary characteristics of a corpus as: (1) authentic, (2) relatively large, (3) electronic, and (4) conforms to specific design criteria. There are corpora containing a variety of registers (also referred to as *text types*) and sub-registers including academic and professional English, spoken English in job interviews, newspaper articles, learner language, or chatbot interactions that can be analyzed to produce pedagogic data. There is no specific rule regarding the size of a corpus but it should be large enough to promote a systematic analysis of relevant, target linguistic patterns when utilized for materials design in the classroom (Friginal & Hardy, 2014). With the advent of personal computers, programming tools, as well as major innovations in internet technology, corpora have been freely shared and explored for research and teaching purposes. One clear benefit here is that corpora allow for the observation and study of real-world language use, with easy access to actual occurrences of target features.

Specifically, Applied Corpus Linguistics (ACL), utilized in language and social research has contributed important linguistics-based explications of discourse with critical language policy and pedagogical implications. ACL is understood to include the use of corpus resources, techniques, and tools in order to, for example, examine patterning in public discourses so as to obtain novel understandings of how language is used and construed in specific contexts (Thompson & Friginal, 2020). Considering its potential, it is easy to envision the positive contribution of ACL approaches and the collection of (workplace) corpora in a variety of policy and training contexts. Biber et al. (2010) noted that corpora have been held to be default resources in linguistic research, and various stakeholders of a particular domain or industry, therefore, benefit from the practical and pragmatic applications of corpus data. For example, corpora have contributed immensely to studies of phraseological and collocational patterns of English, illustrating how such patterns can inform language training for specific purposes. In a particular domain such as aviation, phraseology is a very important area of study, and corpus approaches have enhanced the ability of users to understand and utilize prescribed forms of utterances

successfully (Friginal et al., 2021). As Römer (2009) observes, 'language is highly patterned' (p. 140), and often, these patterns are important to highlight and teach in the training classroom (Friginal et al., 2021).

This paper adds to the body of research in corpus-assisted discourse studies by establishing the similarities or differences in how call center agents and pilots make use of co-occurring linguistic dimensions that characterize the discourse of outsourced call centers and global aviation. In his introduction to the first issue of the *Journal of Corpora and Discourse Studies* (JCaDS), Alan Partington (2018) mentioned that, 'the cumulative evidence provided by relatively large amounts of data can help expose the limits and liabilities of unassisted introspection' (p. 3). He also emphasized that corpus-assisted discourse analysis generally involves comparing two or more corpora of different discourse types, and often comparing the contents of a register-specific corpus to a mixed-register corpus. In fact, the study of discourse is necessarily comparative or contrastive in two separate but related ways, within an individual discourse type, comparing the choices being made by speakers or writers at any point in a discourse to what is typical (Partington, Duguid, & Taylor, 2013). Partington's body of work has inspired this paper, and the targeted comparisons, with the goal of revealing meaningful similarities, testing observations, and identifying applications.

2. Call centers and global aviation: A corpus-based cross-register comparison

The overarching goal and scope of this paper is to highlight the intersection of workplace corpora and ACL approaches in materials development and resulting policy implications within outsourced call centers and aviation industry domains. Both industries are mediated by technology use (i.e., telephone, radiotelephony), and for the purposes of this study, interlocutors whose first language (L1) may not be English. Global aviation is a complex web of systems and procedures, and communication is a piece that plays a large role in the overall efficiency of that system. The discourse of aviation is markedly different from 'natural' language in vocabulary and syntax, and is easily affected by workload, speech rate, and working memory constraints (Barshi & Farris, 2013; Friginal et al., 2021). For global aviation discourse to be successful, participants need shared operational knowledge, and adequate English proficiency to complete communicative tasks (Friginal et al., 2019).

Similarly, customer telephone contact centers (i.e., 'call centers') have become an essential part of modern global business operations. They are designed to provide customers with a quick and easy way to address their concerns, queries, or issues with a product or service remotely. Over the years, call centers have evolved significantly, incorporating new technologies such as artificial intelligence and web chats or chatbots, among others (Friginal, 2022; 2013a; Friginal & Friginal, 2023; Lockwood, 2022). Perhaps the most significant business reason for the continuing popularity of call centers is their ability to provide immediate service to customers using the telephone, personal computers, and

mobile devices. They provide customers with a convenient and accessible way to reach businesses, enabling them to get the support they need quickly and, ideally, efficiently. This often leads to improved customer satisfaction and loyalty, as what industries would like to achieve, given that customers are more likely to return to businesses that provide effective and high-quality customer support (Johnson & Grayson, 2005).

The unique characteristics of professional, workplace discourses in the aviation industry and global outsourced call centers are examined in this paper from an ACL approach and utilizing Biber's (1988) multi-dimensional (MD) analysis, with linguistic features identified in Friginal (2009, 2013a). The global aviation industry relies heavily on safe and effective communications to manage the tens of thousands of aircrafts in the sky. The need to analyze the spoken and written discourses of aviation, and transfer those findings to assessment practice and pedagogy (i.e., knowledge transfer), therefore, is evident and urgent (Breul, 2013), given that miscommunication sequences have, unfortunately, contributed to airplane crashes and fatalities. Correspondingly, the outsourced call center industry has relied on the effective English-speaking skills of its 'international' agents to continue to thrive, even as various threats, including those from Generative Artificial Intelligence (AI) models will likely disrupt prevailing practices. There is a growing number of corpus-based studies of aviation and call center communication, especially focusing on pilot-controller and agent-caller/customer talk. For aviation, a seminal study using Biber and Conrad's (2009) framework for register analysis was conducted by Bieswanger (2016), demonstrating that varieties of pilot speech (i.e., as noted earlier, standard phraseology and plain English) are in fact distinct, specialized registers of spoken radiotelephony. Friginal (2013a, 2013b) and Friginal and Friginal (2023) reported on corpus data of call center interactions primarily collected in the Philippines and India, with implications for training and company-based micro language policies. Friginal's (2009) book, *The Language of Outsourced Call Centers*, was the first large-scale study on call center interactions that utilized corpus-based approaches.

2.1. Global aviation communication: Pilot-controller talk

Unlike the early days of flight when accidents were prevalent, the safety record of the aviation industry has continued to improve in the past several decades. Aviation operational training for students and professional pilots, controllers, maintenance technicians, and various staff/crew occurs all over the world across settings and mediums of instruction (often in the student's first language outside of the English-speaking world). Along with effective training, technical innovations have enabled more system redundancies and operational efficiencies, resulting in most of today's accidents being attributable to human error rather than mechanical failure (Ishihara & Prado, 2021). One area for potential human error is communication, a fundamental task required of all pilots and controllers to operate a flight successfully. During a single flight, hundreds or even thousands of utterances may be transmitted using a radio, becoming more frequent and complex during flights which are longer, flying through busier airspace, or experiencing unusual or emergency situations. To manage flight operations, pilots and controllers use radiotele-

phony as a highly specialized register to interact about navigation, meteorology, aircraft performance, and emergency procedures (Friginal et al., 2021).

A large majority of today's aviation professionals are English-as-a-second-language (L2) speakers (Emery, 2015). With this, the United Nations' (UN) International Civil Aviation Organization (ICAO) mandates a certain level of English language proficiency required of these pilots and controllers who fly or manage international air routes. Professional pilots are rated based on ICAO's Language Proficiency Requirements (LPRs), outlined in *Document 9835: Manual on the Implementation of the Language Proficiency Requirements* (2nd ed., ICAO, 2010). Using a six-level rating scale and six skills areas of language performance (Interaction, Fluency, Comprehension, Vocabulary, Pronunciation, and Structure), achieving Operational Level 4 is deemed the minimum requirement for safe operations and licensing.

Aeronautical radiotelephony encompasses what is known as *standardized phraseology* and *plain English* (ICAO, 2010). Routine aviation operations are covered by standardized phraseology, which is prescribed in ICAO's (2007) *Document 9432: Manual of Radiotelephony*. Standardized phraseology does not adhere to the grammar rules of common English, omitting many extraneous function words and using only a set of about 400 lexical items (Philps, 1991). In addition to its limited lexicon and syntactic structures, standardized phraseology is unique semantically in its rejection of ambiguity, and phonetically in its standardization of pronunciation. Standardized phraseology is the preferred register of use, but as its components are limited, it cannot be used in all situations. According to ICAO (2001) *Annex 10*, 'standardized phraseology shall be used in all situations for which it has been specified. Only when standardized phraseology cannot serve an intended transmission, plain language shall be used' (Friginal et al., in press). Bieswanger (2016) found that the register of plain English also maintains structural conciseness and a restricted lexicon (in general, similar to standardized phraseology), but he argued that these two are distinct registers which both need to be explicitly taught in schools and training facilities.

The English language is used differently by each individual aviation domain. Exploring the features of these registers could greatly enhance aviation English materials design, enabling the development of customized training curricula which closely mimic the language used in specific operational domains (ICAO, 2010). Training curricula must include materials at a level of specification appropriate for the very different jobs, and corresponding language needs of pilots (Emery, 2015; Friginal et al., 2019). Recent corpus research, such as Prado and Tosqui-Lucks' (2019) collection of the 110,000-word Radiotelephony Plain English Corpus (RTPEC) or work done with the Corpus of Pilot and Air Traffic Controller Communications or CORPAC (Friginal et al., 2021) have shown important distributional patterns that could be directly adapted for instructional purposes. The RTPEC is based on an ICAO list of 33 different categories of 'abnormal' occurrences, from bird strikes to equipment malfunctions. Prado and Tosqui-Lucks (2019) included events from each of these 33 non-routine categories and have begun analyzing the data further for patterns and insights into the use of plain language.

2.2.   International (outsourced) call centers

The history of business-customer call centers can be traced back to the 1960s when automatic call distribution (ACD) systems were first introduced. These systems enabled businesses to manage high volumes of inbound calls efficiently. However, the first call centers were primarily used for outbound sales and marketing campaigns. It was not until the 1980s that call centers began to shift their focus to inbound customer service (i.e., hiring designated representatives to respond to customer questions (Vashistha & Vashistha, 2006). The 1980s saw the emergence of the personal computer and the widespread adoption of software applications that enabled businesses to track and manage interactions. Computers led to the development of customer relationship management (CRM) systems, which provided a more comprehensive and integrated approach to handling business processes. The 1990s saw the rise of the internet and e-commerce platforms, which further accelerated the growth of contact centers, as businesses sought to provide online customer support to a wider range of customers. Overall, call centers have enable businesses to consolidate their customer support operations, reducing costs associated with maintaining multiple support channels. For example, a business that previously relied on email, chat, and social media for customer support can consolidate these channels into a single contact center, reducing the need for multiple support teams and associated infrastructure. The outsourcing of customer contact services to more affordable foreign locations also enables a range of businesses to leverage economies of scale globally. By centralizing their support operations, businesses can invest in technology and infrastructure that would be prohibitively expensive for individual support teams (Vashistha & Vashistha, 2006; Friginal, 2022; Tovar, 2022).

Business communication (especially in English) is a critical aspect of call center operations, and applied linguists and user experience researchers have been conducting numerous studies to understand how communication affects call center performance, particularly by call center agents (i.e., the call-takers), and customer outcomes. A common theme is to investigate different communication strategies that agents can use to improve their interactions with customers. Mackinnon Clark et al. (2012) used a mixed-methods approach to investigate the impact of telephone-based communication strategies on customer satisfaction. The study found that using positive language, showing empathy, and providing clear explanations were effective communication strategies for improving customer satisfaction. Additionally, the study found that agents who used these strategies were perceived as more competent and trustworthy by customers. Murthy et al. (2008) examined the impact of training agents in communication skills on call center performance, finding that training agents in skills such as active listening, empathy, and rapport building, resulted in improved call center performance, including increased call resolution rates, decreased call handling times, and improved customer satisfaction. Exploring the impact of language and communication strategies on customer outcomes, including customer satisfaction, loyalty, and retention has been an important focus of business quality assurance studies. Skalicky et al. (2016) reported that 'communication quality'

(measured from caller surveys), including agent politeness, empathy, and responsiveness, had a significant positive impact on customer satisfaction and loyalty. More recently, a special issue of the journal *Sociolinguistic Studies* edited by Tovar (2022) explores current developments in call center research and specifically the impact call center work has on agents. Relevant issues in call center interactions are addressed, including web chat (Lockwood, 2022), agent stigmatization and resistance (Orthaber, 2022), and agent training relative to Covid-19 concerns (Nielsen, 2022).

2.3. *The call center outsourcing phenomenon*

Customer call center services in the United States and other English-speaking countries have been outsourced from around the early1990s, first to India and then to the Philippines, primarily to enable businesses to lower the operational costs of maintaining these call centers nationally. Other U.S.-owned businesses have since then also outsourced their operations to countries such as Mexico, El Salvador, and Honduras, mainly for Spanish language support (Friginal, 2013b; Friginal & Friginal, 2023). Advancements in global telecommunication, satellite and fiber-optic technologies over the years have allowed many multi-national corporations to easily move their telephone or computer-based customer service operations overseas, and thereby utilize available, less costly, college-educated human resources (Friedman, 2005; Friginal, 2022).

   The call center industry in the Philippines, for example, has become one of the major drivers of the country's once sluggish economy, recently making it one of the fastest-growing economies in the Asian region. In 2016, call center and Business Process Outsourcing (BPO) revenues reached $23 billion, a 160% increase from 2010, when the country was declared as the world's BPO Capital (Deloitte, 2016). This growth also translated into 1.3 million total BPO jobs for Filipinos during that period. Despite recent political events in the United States, the Covid-19 pandemic, and various global economic shifts, the BPO industry in the Philippines remains stable and relatively dynamic in 2023, still projected to maintain growth in the next five to 10 years ('BPO Philippines Still Top Choice', 2020; Friginal & Friginal, 2023). The United States continues to be the biggest market for call center operations in the Philippines, comprising 66.8% of all transactions and infusing Php 80.5 billion in revenues annually since 2013. The United Kingdom follows at 14.7% or Php 14.7 billion and then Canada at 4.5% or Php 5.5 billion in revenues (Deloitte, 2016).

3. Methodology

3.1. *Corpora*

The present study is part of a larger ACL-guided analysis to describe the patterns of linguistic variation among, (1) groups of call center agents serving callers from the United States and (2) groups of pilots communicating with U.S.-based ATCs. The exploratory grouping of interlocutors is based on their English L1 (or non-L1) background. The com-

bination of quantitative and qualitative methods in the present study provides a comprehensive linguistic description of call center and aviation discourse and documents the overall patterns of variation in these two closely similar domains.

The concept of linguistic co-occurrence, which is the foundation of MD analysis, can be introduced by pointing out intuitively the common differences in the linguistic composition of various types of registers. For example, spoken registers are different from written registers because of factors such as dysfluencies and the co-occurrence of numerous linguistic features that show immediate interactivity (e.g., questions and responses, speech-act formulae, or inserts). Pronouns, past tense verbs, and various discourse markers, (e.g., *I mean* or *you know*), often go together whenever speakers engage in everyday conversations and talk about past experiences or recent events. In contrast, many written registers are characterized by a different set of co-occurring features such as nouns, prepositions, attributive adjectives, longer words, and higher average type-token ratio (Friginal & Hardy, 2014). With computational tools such as Biber's grammatical tagging program, it is then possible to statistically identify and establish these sets of co-occurring linguistic features and compare how they are used by different groups of speakers. In a call center corpus, for example, a comparison of how groups of U.S.-based, Indian, and Filipino agents make use of these statistically correlating features is possible, and then attempt to describe their unique functions derived from these agents' distinctive demographic characteristics.

Corpora		Number of texts (i.e., speakers)	Number of words
CCACC			
International pilots (non-English L1 speakers)		220	42,000
U.S. pilots		100	18,500
U.S. pilot trainees		80	12,000
	Total	400	72,500
Co-CSC			
Philippine agents		400	120,000
Indian agents		300	86,000
U.S.-based agents		300	82,000
	Total	1,000	288,000

Table 1. *Composition of the Cross-Cultural Aeronautical Communication Corpus (CCACC) and Corpus of Outsourced Customer Service Calls (Co-CSC) used for this study*

The same process applies to (non-English L1) international pilots navigating required radiotelephony in completing their tasks with U.S.-based controllers on the ground. The emerging sets of features tell something about the detailed intercultural, linguistic composition of the discourse which is not normally seen in qualitative observations. Table 1 shows the composition of specialized corpora used in this study.

The parallel corpora of U.S.-based, Indian, and Filipino call center agents ($n = 1,000$ total texts or total individuals from two main types of tasks: troubleshooting and product inquiry/order) from Co-CSC was provided by four U.S.-owned call center companies primarily for research and training purposes. The transactions were retrieved following the list of audio files cued in the database of recorded calls for a particular work shift. The calls that qualified in the sub-corpus used for this present study ranged from 3 to 19 minutes in duration. Texts from the CCACC were extracted from several sources including those provided by airlines operating in Asian and South American countries with service to U.S. locations. Training and simulation texts from an aeronautical training company are also included in the exploratory corpus, together with texts from the Corpus of Pilot and ATC Communication or CORPAC from a corpus collection being conducted by Pacheco and Cavallet (Friginal et at., 2021). CORPAC's primary data source is VASAviation's YouTube channel (search for 'vasaviation' from https://www.youtube.com), with publicly-available audio files (most with accompanying transcripts) of authentic materials that feature a sampling of actual language used by pilots and ATCs in aviation in emergency situations.

All recordings were transcribed into machine readable text files by trained transcriptionists following conventions used in the collection of the service encounter corpus of T2K-SWAL (TOEFL 2000 Spoken and Written Academic Language, see Biber, 2006 for a description of this corpus). Personal information about the interlocutors, if any (e.g., names, addresses, phone numbers, credit card or social security numbers, etc.) was consistently replaced by different proper nouns or a series of numbers in the transcripts. No attempt was made to transcribe phonetically and the transcribed texts were manually checked for format and accuracy.

3.2.   *Important caveat and current limitations*

Clearly at this stage, the analysis in this paper using specialized corpora focusing on interlocutors' English L1 vs. non-L1 background is exploratory in nature. Although the Indian (IND) and Filipino (code = PHIL) sub-corpora or international vs. U.S.-based pilots are comparable in representing a range of speakers and tasks, the text files are not generalizable to a wider population of offshore call center agents or international pilots. Noted here again is the goal to obtain comparable linguistic data, given how these international (i.e., non-English L1) interlocutors in these two domains are monitored and assessed for English use regularly, while their English-L1 counterparts are not. All data are normalized in presenting dimension scores to make sure that comparisons are balanced across different text lengths (i.e., length of transactions or interactions). Therefore, the main contribution of results and data interpretation in this study is primarily to describe initial

patterns of intercultural linguistic variation in the language of groups of call center agents and pilots. Some implications for assessment policy and training based on these patterns are provided and discussed below.

3.3. Exploratory Factor Analysis: Resulting dimensions of talk in call center and aviation communication

For comparisons in the results section below, only the first dimension is presented and interpreted microanalytically following a new and independent Exploratory Factor Analysis (EFA), using a set of linguistic features from Friginal (2009, 2013a), that produced four functional dimensions: (1) Task-oriented, polite utterance vs. Involved talk; (2) Procedural talk vs. Informational discourse; (3) Managed discourse; and (4) Urgent, time-specific talk. The linguistic features of dimension 1 (DIM 1) statistically represented 46% of variance in agent and pilot utterances and interpreted in this present analysis. In Friginal's (2009, 2013a) MD analysis, DIM 1 was obtained using an EFA with a Kaiser-Meyer-Olkin Measure for Sampling Adequacy (KMO = 0.724, middling) and Bartlett's Test for Sphericity (approx. chi-square = 13,101.705, d.f. = 666; $p < .0001$) for a four-factor solution. With a cut-off of +/−0.30 for inclusion of a variable in interpretation of a factor, 17 features loaded on the positive side, while 9 features loaded on the negative. The linguistic composition of DIM 1 is shown in Table 2. An extensive discussion of the statistical procedure and interpretation of corpus-based, MD analysis can be found in Biber (1988, 1995, 2006), Conrad and Biber (2001), Friginal (2009; 2013a); and Berber Sardinha and Veirano Pinto (2014, 2019).

Dimension		Features
DIM 1: Task-oriented, polite utterance vs. Involved talk	Positive	*OK*, second person pronouns (*you, your*), average word length, *please*, nouns, possibility modals, *do/don't, could* (*could you*), nominalizations, *let's* (let us), questions, average length of turns, *thanks, ma'am/sir*, time adverbs, *now*, pronoun *they*
	Negative	Pronoun *it*, first person pronouns (*I, my*), past tense verbs, *that* deletion, private verbs, WH-clauses, perfect aspect verbs, *I mean/you know*, verb *do*

Table 2. *Linguistic dimensions of outsourced call center and aviation English interactions*

The combination of positive and negative features in DIM 1 illustrates a linguistic dimension that differentiates between transactional (e.g., *OK*), addressee-focused (e.g., use of second person pronouns *you/your*), polite (*thanks, sir/ma'am*), and elaborated discourse (e.g., longer average length of turns, nouns, and nominalizations) and involved and simplified narrative portraying how informational content is produced by agents and pilots in customer service transactions and aviation communication.

4. Results

4.1.   Task-oriented, polite utterance vs. Involved talk

As shown in Table 2, a total of 26 linguistic features comprises DIM 1, with 17 features on the positive and nine on the negative sides of scale. Positive features include lexical politeness and respect markers (e.g., *thanks, please, ma'am* and *sir* and their variants: *thank you, appreciate*), markers of elaboration and information density (e.g., long words and turns, nominalizations, and more nouns), and second person pronouns (e.g., *you, your*) which indicate 'other-directed' focus of talk (White, 1994). Transactional markers (e.g., *OK, now*, time adverbs) and possibility modals (*can, could, may, might*) also loaded positively on this dimension. The features on the negative side, especially pronoun it, first person pronouns, *that* deletion, private verbs (e.g., *think, believe*), WH-clauses, and verb *do*, resemble the grouping in the dimension 'Involved Production' identified by Biber (1988) and White (1994). These features are typical of spoken texts and generally contrast with written, informational, and planned discourse. Also on the negative side of the factor are past tense verbs, perfect aspect verbs, and the use of discourse markers *I mean* and *you know*. These elements point to an accounting of personal experience or narrative that tries to explain the occurrence of a particular situation. Schiffrin (1987) considers *I mean* and *you know* as markers of information and participation; *I mean* marks speaker orientation toward the meaning of one's own talk while *you know* marks interactive transitions (Friginal, 2009, 2013a).

Figure 1 shows the average dimension scores of Indian, Filipino, and U.S.-based agents in customer call centers along a positive and negative scale for DIM 1. These dimension scores reveal differences in the way these agents from two task groups make use of these co-occurring linguistic features. Filipino and Indian agents plot on the positive side of the scale, while their U.S.-based counterparts are on the opposite, negative end. The use of addressee-focused markers, extended turn features, and politeness and respect markers characterizes the overall nature of transactions handled by outsourced agents. Service encounters commonly allocate for courteous language and the recognition of roles (e.g., server/servee), and call center agents are expected to show respect and courtesy when assisting customers (Nielsen, 2022). Of interest here is the variation between these three groups of call center agents who are, in fact, dealing with similar contexts and callers, especially the contrast between PHIL and U.S.-based agents.

TASK-ORIENED, POLITE UTTERANCE
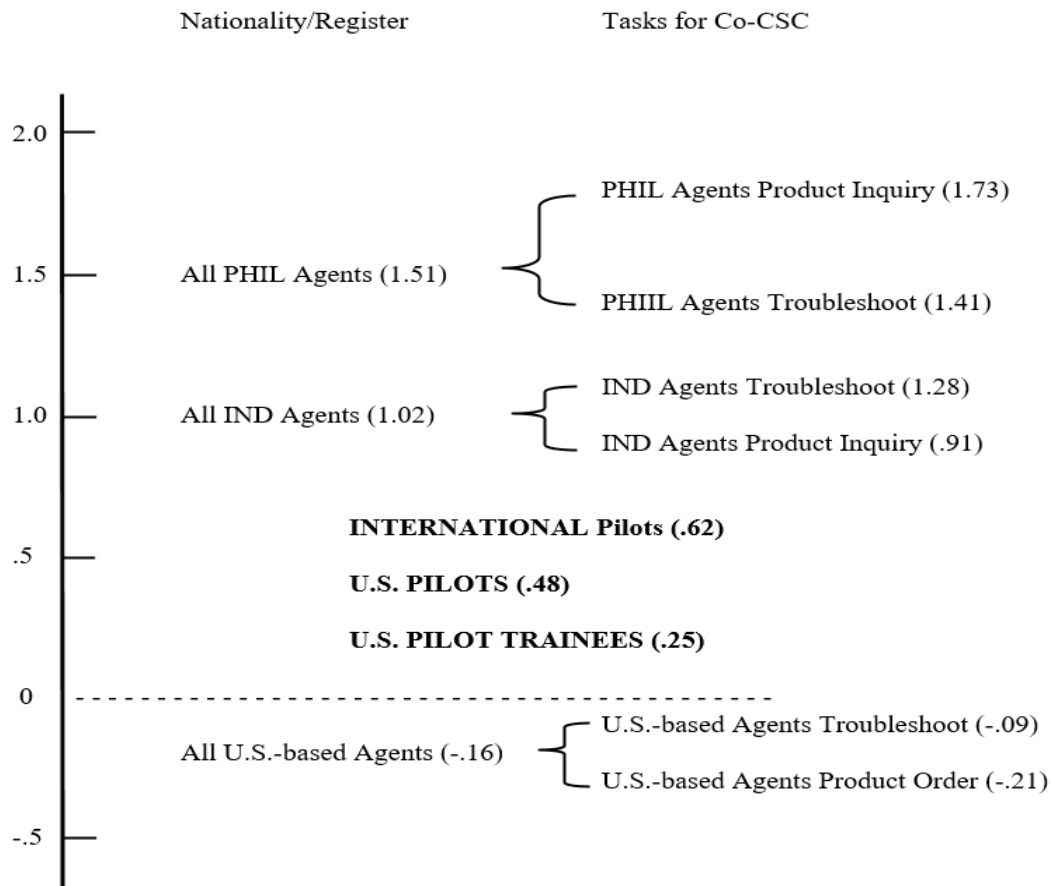
Figure 1. *Comparison of average dimension scores for DIM 1: Task-oriented, polite utterance vs. Involved talk*

In aviation interactions, overlapping linguistic markers of turn-taking and question-answer sequences are expected, as a result of prescribed radiotelephony, addressing distance and differences in speaker roles and locations. Question-answer sequences are clearly marked by specific and very particular lexicon in Aviation interactions (e.g., *negative, say again, copy that*), not present in call centers and typical business and informal spoken registers. There are only very few traces of narrativity in aviation compared to typical spoken interactions, making aviation texts plot closer to zero (0) in the DIM 1 scale. This phenomenon is observed in most procedural turns, especially in simple instructional utterances and responses. Pilots are required to repeat or confirm understanding, and controllers follow consistent sequencing of required call parts or sections, for example, (1) *American twenty-four-zero-five*, (2) *turn heading two-seven-zero*; (3) *descend and maintain one-zero, ten thousand to provide specific instructions.*

However, the co-occurrence of positive features in this dimension appears to represent the dominant objectives of pilots' utterances. Pilots who use more positive features

are likely aiming to give more specific details or are asking follow-up questions, beyond what is typically expected. In the process, these speakers use more nouns, nominalizations, and longer utterances to provide information. A few turns are elaborated and also hint at giving explanations, expression of likelihood, or risks though the use of a significant frequency of possibility modals (e.g., '...*reinstalling the [unclear] can help at it can, it could switch us back to three-ten.*'). Like in call centers, one clear distinction is how international pilots differ from their U.S. counterparts. When these differences are observed, they feature longer turns, repeated use of nouns and repeats of noun-noun sequences, clarifications (e.g., *say again, please repeat*), and, as discussed in the next section, occurrences of polite markers.

4.2.   Politeness features

A comparison of DIM 1 linguistic features shows that Filipino agents in the corpus use more of the positive features of this dimension, especially through increased frequencies of *ma'am/sir, please, sorry/apologize, thanks*—identified for this study as lexical politeness markers (as described in Linde, 1988). In contrast, Indian and U.S.-based agents have lower frequencies of these markers (as shown in Figure 2), shorter length of turns (measured in average number of words per turn), and the transactions maintain more direct question-answer sequences.
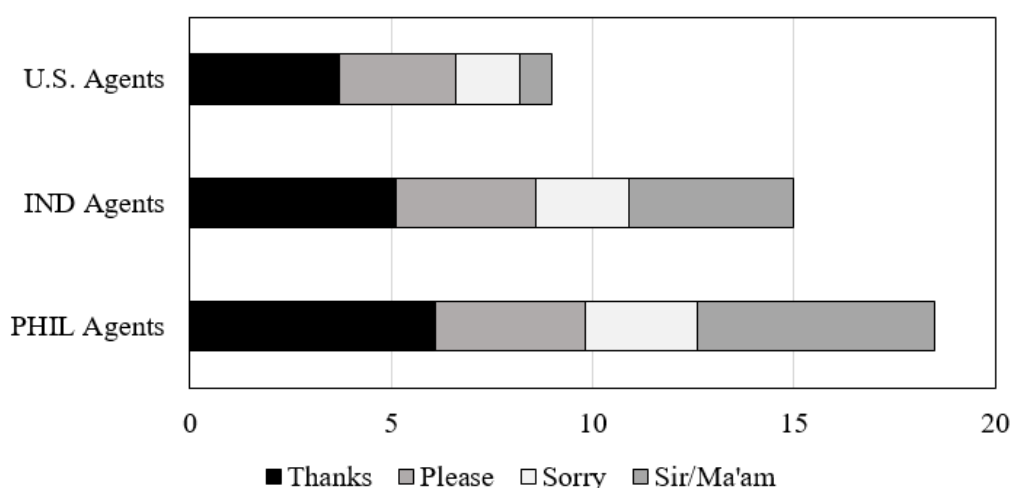

Figure 2. *Comparison of lexical politeness markers across groups of agents*[1]

Texts Samples 1 and 2 obtained from Co-CSC illustrate how Filipino and U.S. agents doing similar tasks (Product Inquiry/Order) differ in their use of the features of DIM 1.

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1   In the illustrative analysis provided in this chapter, lexical politeness and respect markers are grouped into four sub-categories: (1) Thanks or polite speech-act formulae (*thank you, thanks, appreciate*), (2) Polite requests (*please*), (3) Sorry (or apologies: *sorry, apologize, pardon*), and (4) Respect markers (*ma'am, sir. Mr., Ms.*, titles).

Agent	**Thank you** for calling [**Phone Company**] **Payment Services**, my name is [**agent name**], how **can** I help **you**?
Caller	*Yes, uh, when are you guys gonna go back telling us when how much time is left on these phone cards? I mean on these phones?*
Agent	I **apologize** for the **inconvenience sir**, I'll, let me explain on that ok? **Please**, give me your **cell phone number** so I can check on **your minutes**.
Caller	[cell phone number], *I think it has run out because I wanted to use it but it said it didn't have enough time.*
Agent	Ok, let me just verify the charges at the **moment, please** give me **your name** and **address** on the **account please**
Caller	[caller name and address]
Agent	**Thank you** for that Mr. [caller name], let me just pull out **your account** to check **your balance**, ok, Sir? Mr. [caller name], **you** have now zero **balance** on the **account** and uh, ok Mr. [name], **you** are notified of **your balance** when **you** reached below **$10**, below

Text Sample 1. *Call excerpt from PHIL Product Inquiry/Order, DIM Score = 2.02*

In contrast to the Filipino agent in Text Sample 1, the U.S. agent in Text Sample 2 had short and simplified answers and information as prompted by the callers' questions. The typical structure of utterance in this sample is similar to question-answer adjacency pairs with limited elaboration which produced a negative dimension score (-0.61).

Caller	*I wanted to check, you could, could you help me load minutes into this* [brand name] *phone? I believe you have my account information? My husband set it up for us. What do you need?*
Agent	I just need your **number**.
Caller	[caller provides phone number] *and it's under my name*
Agent	Verify **your** name for me **please**?
Caller	[caller provided name]
Agent	[Repeated caller name]. **You** still have a total of a total of, uh, […]. How much do **you** need to add? I noticed that there is also a $10 credit that **you** have not activated, I can activate that for **you** if **you** want.
Caller	*Sure. Please add $20. Could you use my card on record?*
Agent	Yes Ms. [name]
Caller	*Say that again?*
Agent	Yes, sure, **I mean, I can**.
Caller	*Thanks.*

Text Sample 2. *Call excerpt from U.S. agent Product Inquiry/Order, DIM Score = -0.61*

Overall, it appears that Filipino agents prioritize friendliness and the maintenance of customer service persona more than directness and quick resolution of caller issues. As part of training, the Filipino agent in Text Sample 1 was likely coached to establish rapport

with the caller by inserting an apology (e.g., '*I **apologize** for the **inconvenience sir**, I'll, let me explain on that ok?*') and by providing additional details as she assisted the caller in checking the remaining balance in the phone card (e.g., '*For the meantime Mr.* [name], **you can** *also check **your balance** on **your phone** by calling 1-800-000-0000, and that is a free **call** always…*').
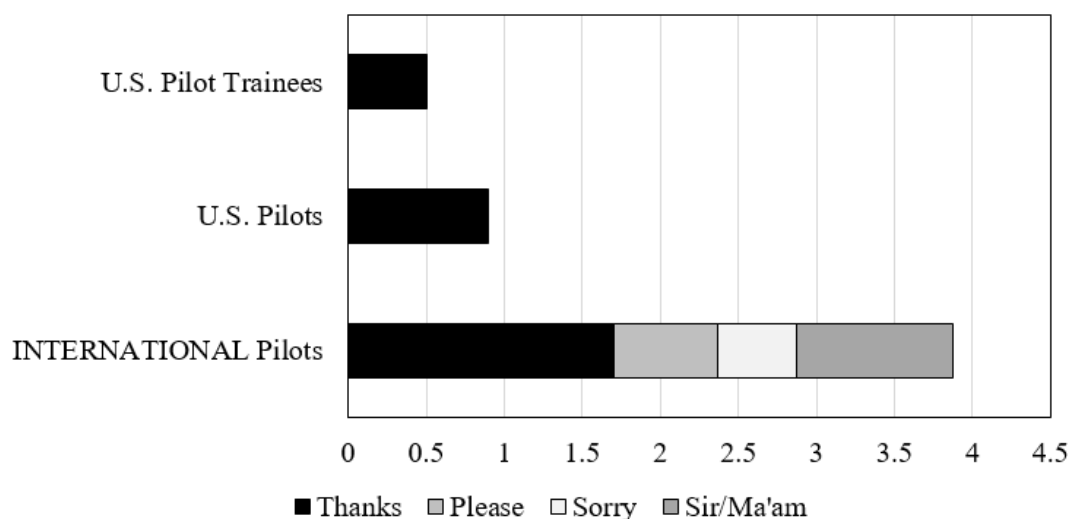

Figure 3. *Comparison of politeness markers across groups of pilots.*

The use or frequency of politeness features in aviation is a more complicated issue than in call centers. As prescribed by various ICAO language-related policies, training procedures, and manuals used during *ab initio* pilot exercises require that routine communication between pilots and controllers be conducted solely and strictly in prescribed (standard) phraseology. As politeness is not part of standard phraseology, aviation interlocutors have been trained to understand and consider that these features are superfluous and unnecessary in the interaction (Ishihara & Prado, 2021). Politeness markers are also deemed as impeding communication efficiency and detracting from conciseness in communication. In addition, training manuals have also explicitly highlighted that pilot and controller utterances introducing a new topic are more likely to fail if they are mitigated (i.e., they are indirect) than if they are direct (Linde, 1988). The use of these polite markers is identified, therefore, as also representations of mitigation in discourse, and that these turns are more likely to fail if they are mitigated than if they are direct (Linde, 1988).

Figure 3 shows that international pilots have close to four (3.89) of these polite markers normalized per 1,000 words, compared to 0.5 and 0.88 for U.S. pilot trainees and U.S. pilots respectively. There were no occurrences of *please* (including *could you*), *sorry* (apologize), and especially *sir/ma'am* in the turns by U.S. pilots and trainees. Interestingly, international pilots used *sir/ma'am* once per 1,000 words in their collective turns. At times, *sir* co-occurs with *Roger*, which indicates that a message had been heard and understood

(*Roger, sir*). Several occurrences of *thank you* and *appreciate* are found in the CCACC. Text samples of occurrences of polite markers in international pilots' turns are shown below:

1.   [airline] OK, hold short of Mike Alpha, roger **sir**
2.   Roger to the gate, **thank you**.
3.   Oh, negative **sir** we're on two two right holding short of foxtrot.
4.   Roger, **sir**, we just exit the runway and we're holding short of […]
5.   I'm not on the ramp yet, **sir**.
6.   Yes, **sir**, we'll follow the Asiana, and next time **I would like you** to be polite with me. **Thank you**.
7.   Holding short of Hotel, **sir**. **Appreciate** it.

Text Sample 3. *Selected polite features in international pilots' turns obtained from CCACC*

5. Discussion

The exploratory cross-register analysis of intercultural interaction in outsourced call centers and international aviation using a multi-dimensional framework reveals several interesting characteristics of the discourses in general, and in particular, potentially culture- and task-specific differences between English L1 and non-English L1 interlocutors (agents and pilots). DIM 1 illustrates the co-occurring patterns of lexico/syntactic features prevailing across speaker groups in the transactions that are mediated by technology (phones and radiotelephony) and very specific turn expectations. Agents' discourse focuses on information and data to share with their callers as well as instructions and procedures to resolve an issue. In customer service, agents make use of politeness markers frequently as they engage the callers and monitor the flow of conversation, but there are clear differences potentially contributed by speakers' L1 and cultural background. DIM 1 differences between PHIL, IND, and U.S. agents are certainly important topics to further examine. In aviation, international pilots' use of DIM 1 features is generally similar to U.S. pilot trainees and U.S. pilots, with interlocutors plotting around a comparable range, with only minor dimension score differences. Pilots' turns and questions are within the expected turn-taking sequences, with comparable distributions for nouns, nominalizations, *OK*, and questions (average frequency). Differences are observed in international pilots' use of politeness markers, especially *sir, thank/s/appreciate*, and *please*.

5.1.   *Implications for outsourced call center micro training policies*

The extent of (intended) explanation by Filipino agents given to their callers is demonstrated by co-occurring features such as longer average length of turns, longer average word length, nouns, and nominalizations more than their Indian and U.S.-based counterparts. Sample transcripts receiving higher DIM 1 scores from the sub-corpus of Filipino transactions show more elucidation and repeated confirmation of callers' understanding.

The three groups of agents are tasked to regularly include turns reminding callers about products for sale or issues with legal or monetary implications. Whenever additional selling and explanation occur, the features of elaboration in the texts increase. A quick scan of the texts in the corpus indicates that Filipino agents had more repeated attempts at selling related products, which may have been locally stressed and emphasized for this group by their account managers more than the groups of agents from India and the U.S. (Friginal, 2013a).

5.2.   What then is the relevance of the present comparison for agents?

First, it is important to start establishing the nature of intercultural linguistic variation existing in outsourced call center transactions handled by groups of offshore and inshore agents. It is clear that there are systematic patterns and features of discourse preferred by offshore agents influenced by factors such as their L1 background, customer service norms in their respective countries, together with macro and micro training practices implemented in their local call centers. These lexico/syntactic patterns from corpora may then be used for correlational studies of variables such as quality of service assessment scores and also results from customer satisfaction surveys (e.g., Do higher dimension scores in DIM 1 by Filipino agents positively or negatively correlate with customer satisfaction scores?). Filipino and Indian agents' language proficiency in (American) English, accuracy of service, rapport with U.S. callers, and workflow compliance are also important to consider in establishing the characteristics of successful or unsuccessful transactions handled by offshore agents compared to their U.S.-based counterparts. Other similar questions prompted by results from this study include:

- Do Filipinos have an edge over Indian agents in relating effectively with American callers because of the historical and cultural affinity Filipinos have with Americans and American English?
- Indian agents, based on their average DIM 1 scores and use of politeness features, are closer to averages and distributions with U.S.-based callers than Filipino agents. What does this outcome signify?
- Is the frequent use of politeness markers, more typical of Filipino than of Indian and U.S.-based agents, a positive attribute in customer service calls? Or, do callers prefer the more direct, question-answer sequences which may more efficiently meet their needs?

In further understanding intercultural communication in outsourced call centers, it is very relevant and useful to provide linguistic information to these questions and to continue to correlate service assessment scores and levels of customer satisfaction with agents' characteristic patterns of discourse. Qualitative survey results on callers' awareness of accents and how these affect their customer service experience would also provide insights into the role of cultural factors and linguistic perceptions in determining success or failure of outsourced call center communications. On this note, issues of segmental and suprasegmental pronunciation in English of Indians and Filipinos are not considered

in this paper but are clearly the more obvious target of immediate comparisons, and also especially from callers' perspectives and experiences (i.e., regarding L2 accents).

5.3.   Implications for aviation pilot training

For DIM 1, in the spirit of service and personalization of support, business talk in call centers use politeness markers frequently, engage the callers by giving sufficient or detailed information and explanation, and use discourse markers to monitor the flow of conversation. These patterns are not necessarily encouraged—or even necessary to the task at hand—in aviation phraseology, and clearly, most U.S. pilots and trainees (and U.S.-based controllers) do not make use of these patterns in their turns. However, given the intercultural and global nature of aviation discourse, other ways of delivering instructional and task-focused language may have to be examined more closely and discussed in training and materials design initiatives.

The ICAO LPRs had notable criticisms (Douglas, 2004) because of issues such as the broad definition of aviation English that contrasted directly against the so-called scope of the LPRs: that of radio communications in situations for which there would be no standard phraseology available (ICAO, 2010). Along with the choice of the term plain English to identify the scope of language that goes beyond standard phraseology, the practice of assessment for pilots' English skills has created a number of varying conceptions over the utterances to be taught and evaluated. Heavy emphasis was placed on grammar and pronunciation, marginalizing not only real communications, but other linguistic areas or topics of the LPRs (Alderson, 2011; Kim, 2018; Kim & Elder, 2015). To support this observation, there were several text samples from the CCACC, especially some intended for use with non-English L1 pilots, in which personalized and polite support appear to be preferred in consideration of the characteristics of these non-English L1 pilots in the interest of accurate and collegial communication with their controllers. Prado and Tosqui-Lucks' (2019) study, also using corpora, supports Bieswanger's (2016) call to strictly distinguish standard phraseology from plain English in how they are taught and assessed. Through a conversation analysis (CA) of scripts of flight deck and controller turns involved in the Hudson River accident, Garcia and Fox (2020) suggests that the transition between phraseology and plain language is manifested in the use of 'indexical references' (i.e., elements such as *you, we, this, here*), along with words such as *sir* and *okay* (all features captured in DIM 1 of this study), to indicate a dialogic communication in the midst of several transmitting stations during flight. These items may help signal to all users in the radio frequency that they should listen attentively and build a collaborative relationship (Friginal et al., in press). Through these DIM 1 features, pilots and controllers may potentially build a positive relationship in which mutual understanding is achieved, recognizing that this is crucial to management of successful flights and also emergencies.

6. Conclusion

The ACL-based analysis of spoken, radio/telephone-based interactions in aviation and call centers using Biber's MD analytical framework reveals several interesting similarities and differences across corpora. DIM 1 illustrates the primary lexico-syntactic features of professional talk and how these may be used in business and aviation, as well as other similar domains (e.g., maritime communication, telehealth, etc.). Pilot-controller utterances, in summary, are different in linguistic composition from business call centers, even with their clear contextual parallels with agents-callers in the medium and also the various functions of their discourse features. The analyses here highlighted broader register comparisons, and the next step is to further pursue comparisons by differentiating the texts from these corpora according to speaker roles (e.g., agents vs. callers, pilots vs. ATCs), language background and proficiency/fluency scores (based on assessment), and other human factors. Corpus data and approaches from applied corpus linguistics describe the information coming from agents as primarily planned and procedural, likely similar to how controllers frame their utterances, but the similarities end there. In call centers, agents constantly manage and monitor their utterances, highly focused on establishing rapport and working together (e.g., *let's start with the third part; we'll have to change your password*). Pilots rely on their controllers for specific information and instructions, but there are fewer unexpected questions or concerns, especially outside of emergency situations. It is argued here that the standard phraseology vs. plain English distinction in pilots' discourse is best explored, described, and interpreted using corpora.

Finally, the contrasts between English L1 vs. non-L1 speakers in call centers and aviation will continue to be studied along various theories and methods, reflecting constructs such as English as a Lingua Franca (ELF) and Global English. 'International intelligibility' may have been achieved by these professionals in communicating with both English L1 and global English speakers, using the lingua franca of international business and aviation, and it appears that Englishes spoken in India and the Philippines are self-determining varieties of English deployed across structures equipped to fully function in international settings (Friginal, 2007; Phillipson, 2001; Tupas, 2004). With (outsourced) call centers and aviation, however, there still are clear challenges to further define and overcome.

Competing interests

The author has no competing interests to declare.

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