

## Identification of Boosters as Metadiscourse across Punjabi and Urdu Languages: A Machine Translation Approach

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### Abstract

*Boosters are said to function appropriately as metadiscourse features across languages. This study, therefore, aimed to investigate the functions and appropriateness of the metadiscourse features across Punjabi and Urdu languages. For this purpose, a list of 79 boosters (as metadiscourse features) was considered that (boosters) were first transliterated across Punjabi and Urdu languages employing a machine translation process. Punjabi translation was carried through 'Akhar' (a software), and Punjabi corpus (a tool). Whereas Urdu translation was realized through online Urdu thesaurus, and 'ijunoon' (an online dictionary). Machine transliteration was followed by manual cleansing of Punjabi and Urdu translated wordlists that helped identify boosters in the corpora. Appropriateness of the identified boosters was then realized through expert opinion and Punjabi corpus (for the Punjabi language), and expert opinion, online Urdu thesaurus, and Urdu WordNet (for the Urdu language). This process further guided about how to; make wordlists, filter as well as verify translated words, and offer interactional and interactive metadiscourse categories across Punjabi and Urdu languages.*

**Keywords:** Appropriateness of Metadiscourse Features; Identification of Boosters; Machine Transliteration; Metadiscourse across Languages; Metadiscourse Functions

### Introduction

Metadiscourse features are linguistic items that organize textual and interpersonal features across different languages. This study is about boosters as metadiscourse category which incorporates intensity into the text across Punjabi and Urdu languages. Many studies were conducted on metadiscourse features across languages e.g. English, Thai (Bickner & Peyasantiwong, 1988), Chinese (Zhang, 1990), Finnish (Mauranen, 1993; Tirkkonen-Condit, 1996), Japanese (Maynard, 1996), and Persian (Hashemi & Golparvar, 2012). But no significant attempt has been made on metadiscourse features across Punjabi (i.e. Shahmukhi script) and Urdu languages. Thus, this study (being the first attempt) explores metadiscourse features across Punjabi and Urdu languages through machine translation.

Past studies (e.g. Bickner & Peyasantiwong, 1988; Hashemi & Golparvar, 2012; Mauranen, 1993; Maynard, 1996; Tirkkonen-Condit, 1996; Zhang, 1990) provide the taxonomy of metadiscourse features that categorizes into interactive and interactional categories. The studies by Siddique, Mahmood, and Iqbal (2018) and Siddique, Mahmood, Azhar, and Qasim (2018) proposed a comprehensive taxonomy of boosters as metadiscourse features as per their interactive and interactional categories. The said study is a significant source of inspiration for this study. The developed list of boosters has never been studied across Punjabi and Urdu languages. Thus, this study is going to be the first attempt to provide an awareness of boosters across Punjabi and Urdu languages. Besides, this study introduces a new domain of studying, identifying, and functioning the role of boosters across Punjabi and Urdu languages. In this way, this study outlines such issues as have not been discussed before. As the main concern, this study focuses to see how boosters perform

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functions across Punjabi and Urdu Languages. To answer this query, this study has identified boosters across Punjabi and Urdu languages through machine translation. Thus, this study deals with the development of boosters, the process of transliteration of boosters through the machine, the process of cleansing the transliterated words as errors, and the process of mapping boosters across Punjabi and Urdu languages. Keeping in view the aforementioned aims, this study speculates the following research questions:

1. What boosters (as metadiscourse features) are transliterated across Punjabi and Urdu Languages?
2. How boosters (as metadiscoursal features) are identified across Punjabi and Urdu Languages?
3. Which boosters (as metadiscoursal features) perform functions across Punjabi and Urdu languages?

The interactional category is further divided into five sub-categories i.e. hedges, engagement markers, relation markers, attitude markers, and boosters (Hyland, 2018). This study has delimited metadiscourse features to its interactional category i.e. boosters. This study has only focused on boosters.

### **Literature Review**

This literature deals with several contributions that have been executed on metadiscourse features across Punjabi and Urdu languages. Most of the studies have described metadiscourse features' utility in real life. Many studies were seen on metadiscourse features across languages. But there is no significant attempt has been made on metadiscourse features across Punjabi (i.e. Shahmukhi script) and Urdu languages. Therefore, this study has attempted to examine boosters as a category of metadiscourse across Punjabi and Urdu languages.

### **Punjabi Language**

Different local or regional languages (e.g. Punjabi, Pashto, Sindhi, Saraiki, Urdu, and Balochi) are used in Pakistan (Bhurgri, 2006). The Punjabi language has two dialects: (1) Eastern Punjabi which is mostly spoken by the people of Punjab in India; and (2) Western Punjabi which is mostly spoken by the people of Punjab in Pakistan (Kaur, Sharma, Preet & Bhatia, 2010; Narang, Sharma & Kumar, 2013; Sharma & Aarti, 2011). Perso-Arabic (Shahmukhi) script is used by the Pakistanis, and Gurmukhi/Devanagari script is used by the Indians (Lehal & Saini, 2011; Malik, 2006; Virk, Humayoun & Ranta, 2011).

The Punjabi language connects back with the Indo-Aryan languages (Gill & Lehal, 2008). But with time, Persian, Arabic, and Turkish words constituted the Punjabi vocabulary. Also, there is a problem with its alphabets i.e. there are no standardized alphabets in Punjabi. It is usually written by using the alphabet of Urdu (Bhurgri, 2006). Punjabi (particularly spoken in Pakistan) is a less-resourced language. Generally, very little work is done on Punjabi (Kaur, et al., 2010; Narang et al., 2013). Moreover, Shahmukhi is written from right to left and is based on the Nastaliq style of Persian and Arabic script. The shape of the characters (in a word) is context-sensitive, which means a letter has a different shape if it occurs at the start, middle, or end position of a word (Malik, 2006).

### **Urdu Language**

Urdu (اردو) is written in the Persio-Arabic script and normally in Nastaliq writing style (Hussain, 2004). It is a right-to-left script and the shape of its characters differs depending on its position in words i.e. the shape of a character would be different in initial, middle, and end of word positions. Urdu is written in bidirectional form i.e. letters are written from right-to-left and numbers from the left-to-right format. Urdu is written with consonantal letters and aerabs. The vocalic content is specified by using the aerab with letters. Aerab position can be on the top and bottom of a letter (Adeeba & Hussain, 2011).

### **Machine Translation**

The terms transliteration and transcription are often used as generic terms for various processes like transliteration, transcription, romanization, transcribing, and technography (Halpern, 2002). Transliteration is defined as "to write a word or letter in a different alphabet" (Halpern, 2002). It denotes a process that maps one writing system into the other, ideally letter by letter. It attempts to use a one-to-one grapheme correspondence (orthographic conversion). A good transliteration is a reversible process to ensure that the source word can be regenerated from the target transliterated word (Halpern, 2002). On the other hand, transcription is defined as a written representation of words or music. In the words of Halpern (2002) "transcription is the representation of the source script of a

language in the target script in a manner that reflects the pronunciation of the original, often ignoring graphemic (character-to-character) correspondences” (p. 2).

### Metadiscourse Studies across Languages

The recent studies on metadiscourse across different languages have employed different research methods. These studies are seen in different domains such as academic writing, book reviews, spoken language, newspapers, and textbooks. The features of metadiscourse have been studied across languages, genres, and disciplines. A very recent study on metadiscourse across language, Gholami, Tajali, and Shokrpour (2014) investigated metadiscoursal features in English medical texts and their Persian translations. This corpus-based study used a quantitative approach to present metadiscoursal features in the data. To conduct the study, the researchers practiced different tools such as a taxonomy of Hyland (2005) for data analysis; Kolmogorov Smirnov test (KS-test), t-test, and Wilcoxon signed-rank test were used to arrange numerical results of the metadiscourse features. Another study on metadiscourse was conducted by Herriman (2014) who studied metadiscourse features in non-fiction texts across different languages and their translations. This study was corpus-based and used an integrative approach and Hyland’s (2005) model for data analysis focusing on content analysis using a qualitative approach.

### Translation Method and Metadiscourse

According to Newmark (1988), “translation is rendering the meaning of a text into another language in the way that the author intended the text” (p. 5). The translator tries to closely interact with both source and target texts of all kinds for particular purposes and particular recipients, usually in response to a translation job commissioned by a client (Hatim & Mason, 2005). Williams (2005) states that a translator requires the knowledge of literary and non-literary textual criticism since he has to assess the quality of a text before he decides how to interpret and translate it. A translator translates a source text into a target text, thereby implicitly or explicitly taking into account the form and genre of the text and the fact that the whole process of translation is embedded in a cultural and political context (Vermeer, 2007, p. 174). Translation of scientific texts, as happens with other texts of specialization, can be approached from different perspectives e.g. discourse, register, genre, terminology, etc. as suggested by the researchers (e.g. Gamero Pérez, 2001). One successful approach is the pragmatic perspective that applies genre and register to translation (Jiménez, 2001). This allows to identify all communicative functions and translates them into the target text.

### Methodology

This study attempts to provide a platform for studying metadiscourse features across Punjabi (Figure 1) and Urdu languages (Figure 2). In this regard, a roadmap was devised to see that how these features were mapped. For this purpose, both Punjabi and Urdu languages were dealt with separately, the boosters as metadiscourse features were mapped across Punjabi and Urdu languages using machine transliteration.

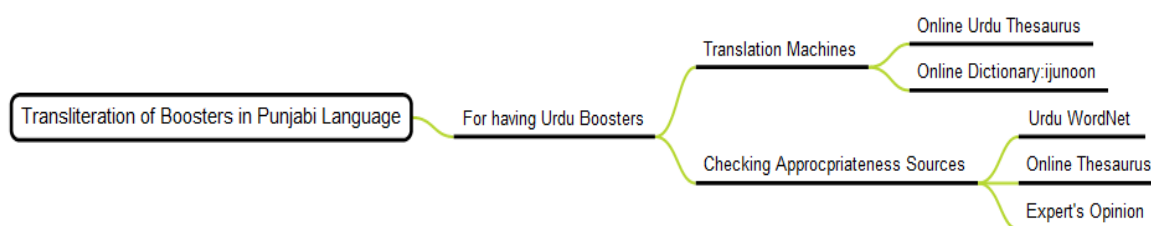


Figure 1. Mapping of Boosters in Punjabi Language

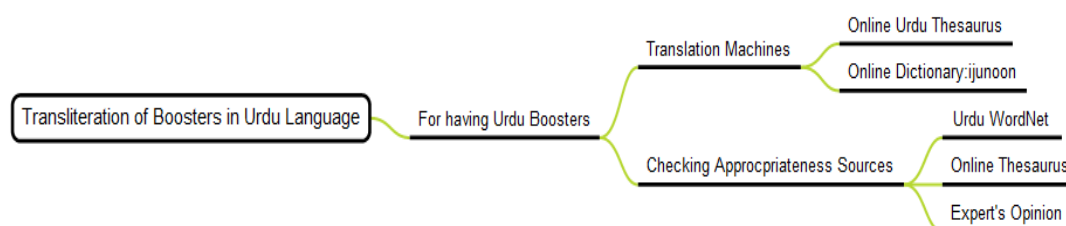


Figure 2. Mapping of Boosters in Urdu Language

### Development of Boosters

A study by Siddique, Mahmood, and Iqbal (2018) has already developed a comprehensive list of boosters considering two sources i.e. Hyland (2005) and the software (textinspector.com). This study considered the taxonomy of boosters by modifying it according to the requirement (Table 1).

**Table 1. List of Boosters (proposed in Siddique, Mahmood & Iqbal, 2018)**

Sr.No.	Boosters	Sr. No.	Boosters	Sr. No.	Boosters	Sr. No.	Boosters
1	actually	21	demonstrated	41	indeed	61	show
2	always	22	demonstrates	42	indisputable	62	showed
3	apparent	23	determine	43	indisputably	63	shown
4	believe	24	doubt	44	it is clear	64	shows
5	believed	25	doubtless	45	know	65	sure
6	believes	26	essential	46	known	66	surely
7	beyond	27	establish	47	must	67	the fact that
8	beyond doubt	28	established	48	never	68	think
9	by far	29	even if	49	no doubt	69	thinks
10	certain	30	evident	50	obvious	70	thought
11	certain that	31	evidently	51	obviously	71	truly
12	certainly	32	find	52	of course	72	undeniable
13	certainty	33	finds	53	prove	73	undeniably
14	clear	34	found	54	proved	74	undisputedly
15	clearly	35	I believe	55	proves	75	undoubtedly
16	conclusively	36	in fact	56	realize	76	well known
17	decidedly	37	incontestable	57	realized	77	without doubt
18	definite	38	incontestably	58	realizes	78	won't
19	definitely	39	incontrovertible	59	really	79	true
20	demonstrate	40	incontrovertibly	60	should		

The number of 79 boosters were considered for transliteration purposes across Punjabi and Urdu languages. To transliterate the boosters across Punjabi and Urdu languages, the following procedures were adopted.

### Process of Transliteration

The taxonomy of boosters was transliterated into Punjabi and Urdu languages. The procedure of transliteration of both Punjabi and Urdu languages was explained.

### Punjabi Language

In the case of Punjabi transliteration, several steps were followed. Firstly, all boosters were individually transliterated through software i.e. Akhar (2016). The steps of transliteration were portrayed through pictograms in figures 3 to 5.

**Step 1:** All boosters were individually searched in the dictionary of Akhar (2016). As a result, the transliteration was noted in the Gurmukhi script.

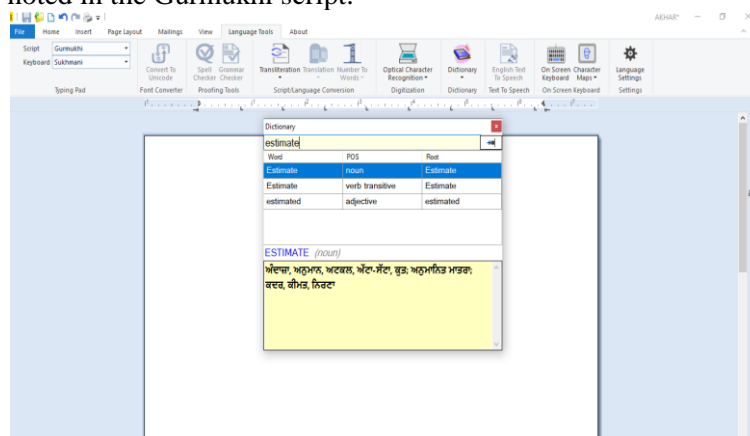


Figure 3. Finding Words in Gurmukhi via Dictionary (Akhar, 2016)

**Step 2:** After searching outcomes, the resultant occurrence in the form of Gurmukhi was pasted onto the writing page and then Gurmukhi was transliterated into Shahmukhi (Figure 2).

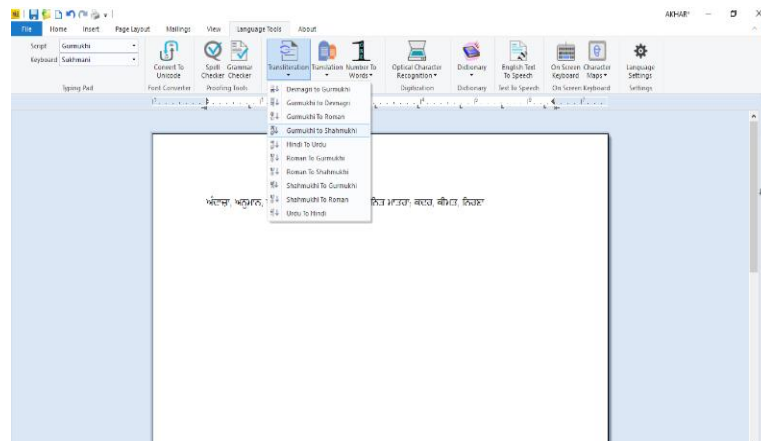


Figure 4. Transliteration of the Searched Gurmukhi into Shahmukhi Words (Akhar, 2016)

**Step 3:** After the transliteration from Gurmukhi into Shahmukhi, for better a view, the transliterated occurrence was brought to notepad for the further procedure (Figure 3).

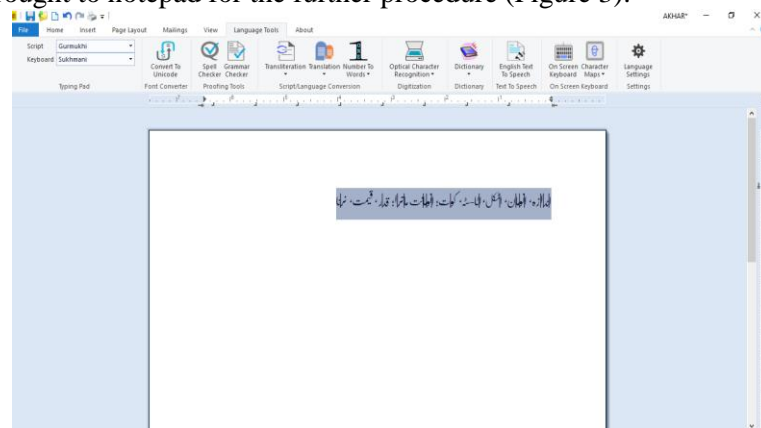


Figure 5. Retrieving Transliterated Shahmukhi Words into Text-File (Akhar, 2016)

### Means of Punjabi Words Retrieval

For having Punjabi translation, two sources were used i.e. Punjabi Corpus (Akhter, Mahmood & Nadeem, 2019; Arslan, Mahmood & Hayat, 2019) and Akhar (2016). These sources helped seeking boosters by providing examples.

### Process of Identifying Punjabi Translations of Boosters

A procedural attempt, utilizing above discussed the sources, was made to have a Punjabi translation of the boosters. After using the first source (Akhar, 2016), firstly a variety of Punjabi translations of the same boosters was recorded. Secondly, the outcomes from machine transliteration (Akhar, 2016) of boosters were refined after removing the transliterated Gurmukhi words which were autonomously transliterated. Using Punjabi corpus, a list of boosters was studied and an expert finalized the presence of transliterated boosters in Punjabi corpus. After using both sources for having Punjabi transliteration of boosters, both transliterations were merged.

### Process of Cleansing in Punjabi Transliteration

After transliteration of boosters in the Punjabi language, the obtained taxonomy of transliterated boosters into Shahmukhi was cleaned. The process of cleaning revealed that the influence of Ghurmukhi was observed and then cleaned in transliterated boosters in Shahmukhi script (Table 2).

**Table 2. Differences Removed in Shahmukhi Punjabi Transliterated Words**

Sr. No.	English	Grammatical Category	Source 1 Dictionary (Akhar): Shahmukhi	Differences removed (Gurmukhi)	Refined Words	Source 2 Punjabi Corpus	Merge: (Refined +Punjabi Corpus)
1	Actually	Adverb	ਸਚ ਮੱਝ, ਅਸਲ ਓਚ, ਦਰਾਸਲ, ਅਸਤੋਕ ਤੋਰ ਤੇ	ਅਸਤੋਕ ਤੋਰ ਤੇ	ਸਚ ਮੱਝ, ਅਸਲ ਓਚ, ਦਰਾਸਲ	ਅਸਲ ਓਚ	ਸਚ ਮੱਝ, ਅਸਲ ਓਚ, ਦਰਾਸਲ

Table 2 revealed that the current study used two different sources (i.e. Akhar software, 2016) dictionary and Punjabi Corpus) for extracting translations in the Punjabi language. To remove

differences, the irrelevant words as errors transliterated in Shahmukhi from Gurmukhi were manually removed. After removing the differences, both sources (where the translations were taken) were mapped together.

### Process of Mapping Identified Boosters

After cleansing the transliterated errors, the next process of mapping was made through the following steps. The purpose of this process was to observe and verifying the presence of transliterated Punjabi boosters. For mapping's sake, the Punjabi translations of both sources were mapped together (Table 3).

**Table 3. Mapping of Identified Boosters**

Sr. No.	Boosters	Grammatical Category	Sources	Merge (Akhar+Punjabi Corpus)
1	Actually	Adverb	Punjabi Corpus Akhar	اصل وچ سچ مچ دراصل

As mentioned in Table 3, the translations of the word “actually” were assisted by two sources. The first source i.e. Punjabi corpus contributed to a single translation “اصل وچ”. The second source i.e. Akhar (2016), contributed to two translations of the same word “سچ مچ and دراصل”. Finally, the word “actually” was transliterated into the Punjabi language and mapped to three transliterations.

### Urdu Language

The same processes were applied to translate boosters in the Urdu language. To transliterate boosters in the Urdu language, several steps were followed. Firstly, both sources provided Urdu translations. The step of transliteration was presented through a picture (Figure 6).

**Step 1:** A taxonomy of boosters was searched in dictionary: ijunoon. As a result, the transliteration was noted.

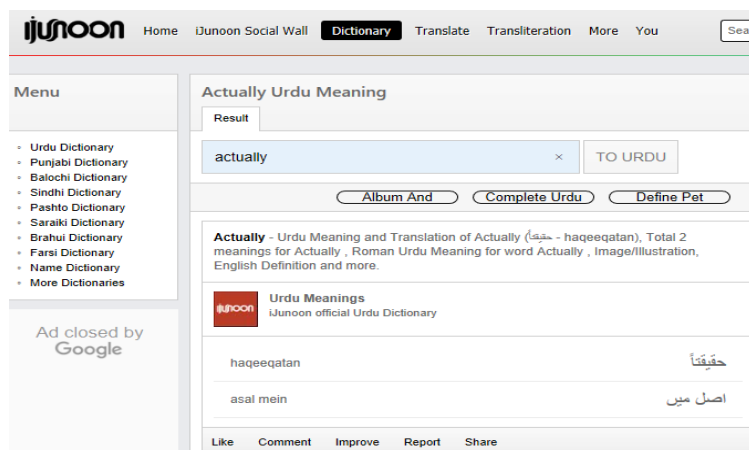


Figure 6. Finding Translation of Words in Urdu via Dictionary: ijunoon

**Step 2:** After searching outcomes, the resultant occurrences were noted as translations of the words.

### Means of Urdu Words Retrieval

For this purpose, the two sources were used to transliterate boosters in the Urdu language such as Urdu Thesaurus and a dictionary: ijunoon. These sources helped in seeking boosters by providing examples, in which boosters were used.

### Process of Identifying Urdu Translations of Boosters

A procedural attempt was made to have an Urdu translation of the boosters. After using the first source i.e. Urdu Thesaurus, firstly a variety of Urdu translations of the same boosters was recorded. Secondly, the outcomes from machine transliteration (a dictionary: ijunoon) of boosters were refined after removing the transliterated Urdu words that were autonomously transliterated. Using Urdu corpus, a list of boosters was studied and the expert finalized the presence of transliterated features of boosters in the Urdu corpus. After using both sources, for having Urdu transliteration of the feature of boosters, both transliterations were merged.

### Process of Cleansing in Urdu Transliteration

After the transliteration of boosters in the Urdu language, the obtained taxonomy of transliterated boosters into Urdu was cleaned. The process of cleaning revealed that the influence of machine



translation was observed and then cleaned in transliterated features of boosters. For example, see Table 4.

**Table 4. Differences Removed in Urdu Transliterated Words**

Sr. No.	English	Grammatical Category	Source 1 Dictionary: ijunoon	Differences removed	Refined Words	Source 2 Urdu Thesaurus	Merge: (Dictionary +Urdu Thesaurus)
1	Actually	Adverb	گا، گی، گے	گا، گی، گے	-	ہونا چاہئے	ہونا چاہئے

#### Process of Mapping Identified Boosters

After the process of cleansing the transliterated errors, the next process of mapping was made through the following steps. The purpose of this process was to observe and verifying the presence of transliterated Urdu boosters. For mapping, the Urdu translations of both sources were mapped together (Table 5).

**Table 5. Distribution of Transliterated Urdu Words**

Sr. No.	English	Grammatical Category	Sources	Urdu Words
1	Actually	Adverb	Urdu Thesaurus ijunoon	در اصل اصل میں حقیقتاً

As shown in Table 5, the translations of the word “actually” were assisted by two sources. The first source i.e. Urdu Thesaurus, contributed to a single translation i.e. “در اصل”. The second source, i.e. a dictionary: ijunoon, contributed to two translations of the same word i.e. “اصل میں” and “حقیقتاً”. Finally, the word “actually” was transliterated into Urdu language and mapped to three transliterations.

#### Results and Discussion

This study developed the list of boosters for having transliterations across Punjabi and Urdu languages. Table 6 represents the details about how the boosters (68 in number) were transliterated in Punjabi 268 wordlist. Out of 268, only 164 words were found in the Punjabi corpus and the remaining were absent. Besides, the left wordlist was keenly observed and some repetitive words were removed from that wordlist. Finally, 91 words were not found in the selected Punjabi corpus.

**Table 6. Results of the Formation of Boosters with its Punjabi Transliteration**

Number of Boosters in English	Transliterated in Punjabi	Differences removed	Punjabi Words	Sentences formed			Left Words	Repetition removed	Unique Left Words
				Punjabi WordNet	Online Punjabi Corpus	Expert			
68	268	..	268	..	164	..	105	14	91

For having boosters in Punjabi translation, the comprehensive table has been given below. In Table 7, which represents boosters in Punjabi translation, a category of boosters has been derived from past research conducted (Siddique, Mahmood & Iqbal, 2018) and further modified. The very next column is about the grammatical category of the list of words that are being identified. After modifying and providing grammatical categories of the taxonomy, these features have been transliterated through the machine as above-mentioned. The other column contains the differences found that have been removed and then the next two columns are the resultant of two sources. The last column merges the variety of identified boosters from two sources.

**Table 7. Identification of Boosters across Punjabi Language**

Sr. No.	Boosters	Grammatical Category	Dictionary (Akhar): Shahmukhi	Differences removed (Gurmukhi)	Refined Words	Punjabi Corpus	Merge: (Refined +Punjabi Corpus)
1	Actually	Adverb	سچ، اصل، وچ، دراصل، تور، استوک تور	تور	سچ، اصل، وچ، دراصل	اصل وچ	سچ، اصل، وچ، دراصل
2	Always	Adverb	سدا، نت، ہمیشہ، ہر سمیں، ہر دم، ہر ویلے، ہر	نرنتر	سدا، نت، ہمیشہ، ہر سمیں، ہر دم، ہر ویلے، ہر		سدا، نت، ہمیشہ، ہر سمیں، ہر دم، ہر ویلے، ہر

3	Apparent	Adjective	موقعے، نرنتر دسدا، جاپدا، پرتکھ، سپشٹ، پرگٹ	جاپدا، پرتکھ، سپشٹ، پرگٹ	موقعے دسدا	کھرا، صاف، نتریا	موقعے کھرا، صاف، نتریا، دسدا
4	Certainly	Adverb	اوش، ضرور، یقیناً، نشجے ہی؛ بے شک، ہاں؛ نرسندیہ	نرسندیہ، نشجے ہی، اوش	ضرور، یقیناً، بے شک، ہاں	لازمی، ضرور، یقیناً، بے شک، ہاں	لازمی، ضرور، یقیناً، بے شک، ہاں
5	Certainty	Noun	نشجا، پک؛ نشجنتا، پکی گل، وشواس سپشٹاپوروک، صاف صاف، سج، مچ، نرسندیہ، بالکل، (اتر وچ) ہاں	نشجنتا، نشجا، وشواس	پکی، گل	بھروسہ	پکی، پکی گل، بھروسہ
6	Clearly	Adverb	سج، مچ، نرسندیہ، بالکل، (اتر وچ) ہاں	سپشٹاپوروک، نرسندیہ، (اتر وچ) ہاں	صاف صاف، سج مچ، بالکل		صاف صاف، سج مچ، بالکل
7	Conclusively	Adverb	نرنانک روپ وچ، نشجنت روپ وچ، انتم روپ وچ نرسندیہ، بنان شک، بے نشجے، شک، ہی	انتم روپ وچ، نرنانک روپ وچ، نشجنت روپ وچ	پوری طرحاں نال	سارے دا سارا، ہر طرح	سارے دا سارا، ہر طرح
8	Decidedly	Adverb	نشجنت روپ وچ، پکے طور نے، ٹھیک ٹھیک، صحیح صحیح؛ سپشٹ روپ وچ، صاف صاف وکھاوے وچ شامل ہونا، مظاہرے وچ شامل ہونا، پردرشن کرنا؛ سینک پررشن ثبوت ہونا، پرمان ہونا؛ وکھالا جان نمائش کرنا، سینک پررشن کرنا	نشجے، شک، نرسندیہ	بنان شک، بے شک، فیصلہ کیتا	فیصلہ لیندیاں	پکا، پکے طور تے، ٹھیک ٹھیک، صحیح صحیح، صاف صاف
9	Definitely	Adverb	نشجنت روپ وچ، پکے طور نے، ٹھیک ٹھیک، صحیح صحیح؛ سپشٹ روپ وچ، صاف صاف وکھاوے وچ شامل ہونا، مظاہرے وچ شامل ہونا، پردرشن کرنا؛ سینک پررشن ثبوت ہونا، پرمان ہونا؛ وکھالا جان نمائش کرنا، سینک پررشن کرنا	سپشٹ روپ وچ، نشجنت روپ وچ	پکے طور تے، ٹھیک، ٹھیک، صحیح صحیح، صاف صاف	پکا	پکا، پکے طور تے، ٹھیک ٹھیک، صحیح صحیح، صاف صاف
10	Demonstrate	verb	نشجنت روپ وچ، پکے طور نے، ٹھیک ٹھیک، صحیح صحیح؛ سپشٹ روپ وچ، صاف صاف وکھاوے وچ شامل ہونا، مظاہرے وچ شامل ہونا، پردرشن کرنا؛ سینک پررشن ثبوت ہونا، پرمان ہونا؛ وکھالا جان نمائش کرنا، سینک پررشن کرنا	سپشٹ روپ وچ، نشجنت روپ وچ	پکے طور تے، ٹھیک، ٹھیک، صحیح صحیح، صاف صاف	پکا	پکا، پکے طور تے، ٹھیک ٹھیک، صحیح صحیح، صاف صاف

Table 8 represents the details about how the boosters (74 in number) were transliterated in Punjabi 278 wordlist. Out of 278, 34 differences were removed as shown in Table 8. Out of 244, only 134 words were found in the Urdu corpus whereas the remaining were not found. Next, the sentences were formed through 3 sources i.e. Urdu WordNet, Online Urdu Corpus, and Expert opinions. The last thing was when the left wordlist was keenly observed; 10 repetitive words were removed from that wordlist. Finally, 88 words were not found in the selected Punjabi corpus. These were unique Urdu left words.

**Table 8. Results of the Formation of Boosters with its Urdu Transliteration**

Number of Boosters in English	Transliterated in Urdu	Differences removed	Sentences formed					Left Words	Repetition removed	Unique Left Words
			Urdu Words	Urdu Word Net	Online Urdu Corpus	Expert				
74	278	34	244	134	2	10	98	10	88	

On the other side, the same procedures have been implemented on the Urdu language for having its transliteration of booster's features. In Table 9, a category of boosters has been derived from past research and further modified. The very next column is about the grammatical category of



the list of words that are being identified. After modifying and providing grammatical categories of the taxonomy, these features have been transliterated through the machine as above-mentioned. The other column is about the differences that have been removed and then the next two columns are the resultant of two sources. The last column merges the variety of boosters identified from two different sources.

**Table 9. Identification of Boosters in Urdu Language**

Sr. No.	English	Grammatical Category	Sources	Translations of Sources	Differences Removed	Urdu Words
1	Actually	Adverb	Urdu Thesaurus ijunoon Urdu Thesaurus	در اصل اصل میں حقیقتاً ہمیشہ		در اصل اصل میں حقیقتاً ہمیشہ سدا ہر وقت مسلسل لگاتار متواتر بلا ناغہ واضح یقیناً قابل اطمینان طور پر بالشبہ سچ مچ بے شک یقین یقینی امر واضح طور پر کھلے طور پر بلا شبہ صاف صاف مکمل طور پر قطعیت کے ساتھ قطعاً مطلقاً فیصلہ کیا قطعاً صریحاً حتماً یقینی طور پر بالکل صاف طور پر ظاہر کرتے ہیں بیان کرنا بتانا
2	always	Adverb	ijunoon	سدا، دائم، ہر وقت، مسلسل، لگاتار، متواتر، بلا ناغہ	دائم	

This study has particularly studied boosters. For this purpose, 79 boosters have been analyzed across Punjabi and Urdu languages. After analyzing these features, the identified boosters were studied to check their appropriateness through the examples as derived from Punjabi and Urdu corpora. An instance of the word ‘Actually’ as transliterated in Urdu, the identified translations in Urdu from different sources have been exemplified. These examples have been retrieved from three sources i.e. Urdu WordNet as proposed by the University of Engineering and Technology and Urdu Corpus, Online Urdu corpus, and expert opinions (Table 10).

Table 10. Verification of Identified Transliterated Words in Urdu Sentences

Sr. No.	English	Grammatical Category	Sources	Translations of Sources	Differences Removed	Urdu Words	Urdu WordNet	Left Urdu Words
1	Actually	Adverb	Urdu Thesaurus	دراصل		دراصل	وہاں اس روز بھی ادیبوں کا ایک گروہ موجود تھا، دراصل آل انڈیا ریڈیو کے پروڈیوسر معین اعجاز اس گروہ کے روح رواں ہیں اس کا بھولا پن اصل میں مکاری تھا حقیقتاً وہی وحدت ہے جو ارادی ہے (Online Urdu Corpus)	
			ijunoon	اصل میں, حقیقتاً		اصل میں	وہ ہمیشہ ایسی بات کرتا ہے جس سے اس کی پست ذہنیت جھلکتی ہے سدا خوش رہو، پھولوں کی طرح کھلتے رہو ہر وقت جو اب ہم کو تم گالیاں دیتے ہو نہیں ہم بھی میاں صاحب ایسے تو گئے گزرے (Online Urdu Corpus)	
			Urdu Thesaurus	ہمیشہ		ہمیشہ	وہ ہمیشہ ایسی بات کرتا ہے جس سے اس کی پست ذہنیت جھلکتی ہے سدا خوش رہو، پھولوں کی طرح کھلتے رہو ہر وقت جو اب ہم کو تم گالیاں دیتے ہو نہیں ہم بھی میاں صاحب ایسے تو گئے گزرے (Online Urdu Corpus)	
2	always	Adverb	ijunoon	سدا, دائم, ہر وقت, مسلسل, لگاتار, متواتر, بلا ناغہ		دائم	وہ ہر وقت کھلاڑی بنا موج مستی کرتا رہتا ہے کبھی سنجیدہ نہیں ہو تا دو دن کی مسلسل بھاگ دوڑ کے بعد وہ اب بیٹھا ہے ہر کام ابتدا میں مشکل لگتا ہے لیکن لگاتار مشق سے آسان ہو جاتا ہے وہ اصول یا قاعدہ جس میں ایک عدد کو	
						مسلسل	وہ ہمیشہ ایسی بات کرتا ہے جس سے اس کی پست ذہنیت جھلکتی ہے سدا خوش رہو، پھولوں کی طرح کھلتے رہو ہر وقت جو اب ہم کو تم گالیاں دیتے ہو نہیں ہم بھی میاں صاحب ایسے تو گئے گزرے (Online Urdu Corpus)	
						لگاتار	وہ ہمیشہ ایسی بات کرتا ہے جس سے اس کی پست ذہنیت جھلکتی ہے سدا خوش رہو، پھولوں کی طرح کھلتے رہو ہر وقت جو اب ہم کو تم گالیاں دیتے ہو نہیں ہم بھی میاں صاحب ایسے تو گئے گزرے (Online Urdu Corpus)	
						متواتر	وہ ہمیشہ ایسی بات کرتا ہے جس سے اس کی پست ذہنیت جھلکتی ہے سدا خوش رہو، پھولوں کی طرح کھلتے رہو ہر وقت جو اب ہم کو تم گالیاں دیتے ہو نہیں ہم بھی میاں صاحب ایسے تو گئے گزرے (Online Urdu Corpus)	
						بلا ناغہ	وہ ہمیشہ ایسی بات کرتا ہے جس سے اس کی پست ذہنیت جھلکتی ہے سدا خوش رہو، پھولوں کی طرح کھلتے رہو ہر وقت جو اب ہم کو تم گالیاں دیتے ہو نہیں ہم بھی میاں صاحب ایسے تو گئے گزرے (Online Urdu Corpus)	

					دوسرے عدد یا اعداد پر بانٹتے ہیں جو اصل میں تقریق متواتر کا اختصار ہے مندرجہ بالا الفاظ میں واضح بتا دیا گیا ہے کہ آج پڑتال ہے پوسٹر پر اس کی تصویر نمایاں تھی اس کی ظاہری شکل پر مت جاؤ وہ اندر سے بہت پلید ہے آپ ہمارے گھر یقیناً آئیے گا		
3	apparent	Adjective	Urdu Thesaurus	واضح	واضح	نمایاں	قابل اطمینان طور پر
			ijunoon	نمایاں، ظاہر	ظاہر		
			Urdu Thesaurus	یقیناً	یقیناً		
4	Certainly	Adverb	ijunoon	قابل اطمینان طور پر، بلاشبہ، سچ مچ، بے شک	سچ مچ	Expert (Opinion)	بیشک مومن تو وہ ہیں جو معروف امور کا حکم دیتے ہیں اور منکر امور سے منع کرتے ہیں۔ مجھے پورا یقین ہے کہ تم نے میری تمام ہدایات بغور سنی ہوں گی
5	certainty	Noun	Urdu Thesaurus+ijunoon	یقین	یقین		
			ijunoon	ایقان، یقینی امر	یقینی امر	ایقان	یقینی امر
6	clearly	Adverb	Urdu Thesaurus	واضح طور پر	واضح طور پر		
			ijunoon	کھلے طور پر، بلاشبہ، صاف صاف	کھلے طور پر بلاشبہ		کھلے طور پر بلاشبہ
7	conclusively	Adverb	Urdu Thesaurus	مکمل طور پر	مکمل طور پر		
					تجربہ سے متعلق ہے		

						قطعیت کے ساتھ	قطعیت کے ساتھ
						اس مجھے واقعے کے بارے میں نہیں تھا معلوم	مطلقاً
8	decidedly	Adverb	ijunnoon	قطعیت کے ساتھ، قطعاً، مطلقاً	Urdu Thesaurus	فیصلہ کیا	مطلقاً
			ijunnoon	صریحاً، قطعاً، حتماً	Urdu Thesaurus	یقینی طور پر	صریحاً حتماً یقینی طور پر
			ijunnoon	بالکل، صاف طور پر	Urdu Thesaurus	ظاہر کرتے ہیں	صاف طور پر ظاہر کرتے ہیں
			ijunnoon	بیان کرنا، بتانا	Urdu Thesaurus	کسی واقعہ کو جس طرح دیکھا اسی طرح بیان کرنا گواہی کہلاتا ہے جب تک تم اپنی مرضی کے موافق بھرپور رویہ نہ لے لو ہر گز نہ بتانا	صاف طور پر ظاہر کرتے ہیں
9	definitely	Adverb	ijunnoon	قطعیت کے ساتھ، قطعاً، حتماً	Urdu Thesaurus	یقینی طور پر	صریحاً حتماً یقینی طور پر
			ijunnoon	صریحاً، قطعاً، حتماً	Urdu Thesaurus	یقینی طور پر	صریحاً حتماً یقینی طور پر
			ijunnoon	بالکل، صاف طور پر	Urdu Thesaurus	ظاہر کرتے ہیں	صاف طور پر ظاہر کرتے ہیں
			ijunnoon	بیان کرنا، بتانا	Urdu Thesaurus	کسی واقعہ کو جس طرح دیکھا اسی طرح بیان کرنا گواہی کہلاتا ہے جب تک تم اپنی مرضی کے موافق بھرپور رویہ نہ لے لو ہر گز نہ بتانا	صاف طور پر ظاہر کرتے ہیں
10	demonstrate	verb	ijunnoon	قطعیت کے ساتھ، قطعاً، حتماً	Urdu Thesaurus	یقینی طور پر	صریحاً حتماً یقینی طور پر
			ijunnoon	صریحاً، قطعاً، حتماً	Urdu Thesaurus	یقینی طور پر	صریحاً حتماً یقینی طور پر
			ijunnoon	بالکل، صاف طور پر	Urdu Thesaurus	ظاہر کرتے ہیں	صاف طور پر ظاہر کرتے ہیں
			ijunnoon	بیان کرنا، بتانا	Urdu Thesaurus	کسی واقعہ کو جس طرح دیکھا اسی طرح بیان کرنا گواہی کہلاتا ہے جب تک تم اپنی مرضی کے موافق بھرپور رویہ نہ لے لو ہر گز نہ بتانا	صاف طور پر ظاہر کرتے ہیں

Similarly, the list of boosters as transliterated in Punjabi using different sources has been exemplified. These examples have been retrieved from the Punjabi corpus (Table 11).

**Table 11. Verification of Identified Transliterated Words in Punjabi through Sentences**

Sr. No.	Boosters	Sources	Merge (Akhar+Punjabi Corpus)	Sentence Example	Left Words
1	Actually	Punjabi Corpus	اصل وچ	اصل وچ توں میری گل نی سمجھ ریا	
		Akhar	سچ مچ	میں سچ مچ تینوں ساری گل دس دتی وے	
			دراصل	دراصل تینوں ساری گل دا نئیں پتا	
			سدا	سدا جینودا رہ	
2	always	Akhar	نت	نت دا وچھوڑا میں سہہ نی سکدی	
			ہمیشہ	میں اے گل ہمیشہ یاد رکھوں گا	
			ہر دم	میں ہر دم تیری خیر منگدا	
			ہر ویلے	میں ہر ویلے تینوں اٹیکدا سی	
3	apparent	Punjabi Corpus	ہر سمیں		ہر سمیں
			ہر موقعے		ہر موقعے
			کھرا	میں سارا کھرا سچ دس دتا سی	

			صاف	او کپڑا بڑا صاف سی	
			نتریا	اج اسمان نتریا سی	
		Akhar	دسدا	منوں پنیرے وچ کش نی دسدا	
		Punjabi Corpus	لازمی		لازمی
4	Certainly	Akhar	بے شک		بے شک
			یقیناً		یقیناً
			ضرور		ضرور
5	certainty	Punjabi Corpus	بھروسہ	منوں تیری گل اتے بھروسہ نئیں	
		Akhar	پکی گل	اے پکی گل وا کہ اوہ اج آئے گا	پک
			پک		
6	clearly	Akhar	صاف صاف	اونے ساری گل صاف صاف دس	
			سچ مچ	دتی سی	
			بالکل	اوہ سچ مچ مر گیا وا	بالکل
7	conclusively	Punjabi Corpus	سارے دا سارا	اوجے سارے دا سارا جھوٹ	
		Akhar	بر طرح	بولیا	بر طرح
			پوری طرحاں نال		پوری طرحاں نال
		Punjabi Corpus	فیصلہ لیندیاں	اونت فیصلہ لیندیاں بویاں صبر	
8	decidedly	Akhar	فیصلہ کیتا	نال کم لیا	فیصلہ کیتا
			بے شک		بے شک
			بنائے شک		بنائے شک
		Punjabi Corpus	پکا		پکا
9	definitely	Akhar	صاف صاف		صاف صاف
			صحیح صحیح		صحیح صحیح
			ٹھیک ٹھیک		ٹھیک ٹھیک
			پکے طور تے		پکے طور تے
10	demonstrate	Akhar	وکھاوے وچ شامل ہونا	میں آپ وکھاوے وچ شامل وا	
			نمائش کرنا	اوہ اپنی طاقت دی نمائش کردا وا	
			مظاہرے وچ شامل ہونا	بہت سارے لوگ مظاہرے وچ	
				شامل ہوئے نیں	
			ثبوت ہونا		ثبوت ہونا

## Conclusion

To sum up this study, boosters are lexical items that are used to create an intensity in the text and enhance a writer's narrative significance. 79 boosters as metadiscourse features are acquired (Siddique, Mahmood & Iqbal, 2018) and transliterated across Punjabi and Urdu languages. Through the transliteration process, it is evident that boosters are pervasive across Punjabi and Urdu languages. To find out the boosters across Punjabi and Urdu languages, the different ways such as translation made through the software: Akhar (2016) and the acquired corpora of both Punjabi and Urdu languages have been used in this study. In this way, the devised methodology including translation processes for both languages (i.e. Akhar software, Punjabi corpus, Urdu thesaurus, and online dictionary: ijunoon) helps explore other metadiscourse features across Punjabi and Urdu languages. Finally, the explored transliterated boosters across Punjabi and Urdu languages are closer to the boosters in English concerning their functions in such languages. In this way, Punjabi and Urdu languages have more diversity of boosters in comparison with English language boosters.

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