International Journal of Contemporary Issues in Social Sciences
Volume 3, Issue 2, 2024 ISSN(P):2959-3808 | 2959-2461

NAVIGATING THE COMPLEXITY: FORENSIC ANALYSIS OF LIKELIHOOD OF CONFUSION IN PAKISTANI LOCAL TRADEMARKS

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Received: 26 March, 2024 **Revised:** 25 April, 2024 **Accepted:** 10 May, 2024 **Published:** 22 May, 2024

ABSTRACT

This study examined the impact of phonetic similarities and grapheme-level features on consumer confusion over local trademarks in Pakistan. By using a descriptive qualitative research design, the analysis focuses on six trademark to investigate the level of confusion these linguistic aspects create. The theoretical framework which is used in this research was Shuy's (2002) linguistic techniques. The results highlight that identical graphemes significantly increase the likelihood of customer misinterpretation. Similarly, phonetic resemblance can give rise to misunderstandings, particularly in terms of syllable structures and stress patterns. These findings demonstrate that how significant it is for trademark owners to employ distinct grapheme patterns and phonetic intelligibility in order to ensure brand identification and prevent confusion. By highlighting specific linguistics aspects that lead to consumer misunderstanding and providing advice for making legal decisions in trademark conflict, the study contributes to the fields of forensic linguistics and trademark law. Further study in this area may lead to better consumer protection strategies and trademark design processes.

Keywords: Forensic analysis, Linguistics, Trademarks, Pakistan, Grapheme, Phonetics

INTRODUCTION

Recently, forensic linguistics has become more prevalent in numerous academic disciplines, particularly that is associated with legal and forensic matters, investigations, and open-source intelligence internationally. The term forensic often refers to the legal and professional analysis of written or recorded language by experts (forensic linguists) in order to provide a correct and informed interpretation. The majority of its uses are in legal situations, particularly in the judicial and criminal justice systems. In criminal or civil trials, handwriting or voice recordings containing language evidence are often analyzed by forensic linguists. Language evidence and proofs are the subject of forensic linguistics, according to Gibbons (1999) (p. 164). Syntactic analysis examines phonetics and grammatical structure, whereas word analysis examines speech, sociolinguistics, and lexical structure. Identifying manuscripts whose authors are disputed or whose validity is doubted is the goal of this kind of inquiry. Trademark and unfair competition rules address doubt regarding connection, association, and sponsorship in addition to source ambiguity. Under the Lanham Act, which has broad definitions of "confusion" (15 U.S.C.; quoted in James T. Berger & R. Mark Halligan, 2012, p. 93), a use that "is likely to cause confusion, or to cause mistake, or to deceive as the affiliation, connection, or association" of the junior user with the senior user may give rise to a federal claim for infringement of a non-registered trademark.

Nawaz and Hussain (2021) focused on conducting a forensic linguistic analysis of criminal news story headlines in a Pakistani newspaper in order to examined the ideology behind the language employed. The research primary objective is to understand how the language used in criminal news reporting impacts viewers opinions. Using a qualitative research method and content analysis methodology, the study used the Relevance Theory as a theoretical framework to analyze ten criminal news report headlines from the Dawn newspaper. The results demonstrate the importance of language choices in media coverage and how they impact the

general public perceives crime. The findings also demonstrated how public opinions and impressions were affected by the language employed in criminal news report headlines, such as honor killings, robberies, and murders.

The case of "Adidas" and "Abidas" was investigated, and the possibility of brand name confusion was forensically analyzed, in Makangila, P. S., and Sabira, Y. (2020) research. This research main objective is to highlight how linguistic expertise could be used to support court decisions involving trademark disputes. The aim is to determine the elements that cause audience confusion by looking into information related to the visual resemblance of brand names and the role linguists play in mediating conflicts. The results demonstrate a notable degree of visual similarity between the two brand names, underscoring the significance of linguistics analysis in such cases.

Despite the increasing interest in forensic linguistics, there is still a gap of research on the particular investigation of grapheme-level characteristics and phonetics resemblance in customers confusion among local trademarks in Pakistan. This study aims to fill this gap by analyzing how these linguistic features impact on the consumer misunderstanding and legal decision-making in trademark disputes.

Research Questions

- What is the impact of grapheme-level features on the confusion between Pakistani trademarks with visually similar names?
- How do phonetic similarities between Pakistani trademarks contribute to confusion among consumers?

Research Objectives

- To determine the degree to which these grapheme-level characteristics lead to customer misunderstanding.
- To investigate the potential for customer misunderstanding caused by phonetic similarities amongst Pakistani trademarks.

Statement of the Problem

The aim of this research is to address two research problems: first, there is a lack of particular studies on the consequences of grapheme-level traits on customer confusion between comparable names of Pakistani trademarks; secondly, there is a paucity of knowledge regarding the specific phonological and linguistic characteristics that lead to consumer misunderstanding, especially with regard to Pakistani trademarks. Despite the abundance of studies in the domains of trademark and forensic linguistic, there is still a dearth of gap in the literature about the detailed investigation of grapheme-level factors and their influence on consumer confusion. Moreover, previous study has not thoroughly examined the influence of phonetic similarity on customer misunderstanding among Pakistani trademarks. This study aims to bridge these gaps and improve understanding in the fields of forensic linguistics and trademark law by thoroughly examining phonetic similarities and grapheme-level features in Pakistani trademarks.

Significance of the study

The significance of this study lies in the contributions which makes to the domains of trademark law and forensic linguistics. This is particularly significant, when it comes to Pakistani local trademarks. Prior research on the relationship between phonetic similarity and grapheme level features and viewers confusion has been sparse so it first fills a significant research gap that hasn't gotten much attention in the past. Second, by investigating these linguistic aspects, the study intends to highlight the specific characteristics that lead to consumer misunderstanding and knowledge that is crucial for court rulings concerning trademark conflicts. Thirdly, the research aims to further the area of forensic linguistics by demonstrating how language analysis might support legal decision-making processes in trademark matters. All things considered, linguists, trademark practitioners, and lawmakers involved in consumer protection and trademark law may find this study to be helpful in advancing their knowledge of both fields.

Limitations

- **Limited Sample Size:** The research focus on a small sample size, which consists of only six local trademarks from Pakistan, may not adequately represent the range of trademarks accessible in the market. It is plausible that the results may not be advantageous to all Pakistani trademarks.
- **Data collection strategy:** The strategy uses online resources and social media platforms, which are unable to provide a

comprehensive or accurate representation of the trademarks' attributes. Information obtained from these sources may be biased or lacking.

- **Analysis Scope:** The study focuses on phonetic and grapheme-level similarities between trademarks, excluding other important aspects such as brand reputation or marketing strategies that could lead to consumer misunderstandings.
- **Subjectivity in Linguistic Analysis:** Subjectivity is present in linguistic analysis, particularly in the assessment of grapheme-level properties and phonetic similarity. Different linguists might evaluate the same information differently and come to different conclusions.

Delimitations

- **Emphasis on Pakistani Trademarks:** The study excludes trademarks from other countries and limits its analysis to the setting of Pakistan. Rather, it only focuses on local trademarks in Pakistan.
- **Phonetic and Grapheme-Level Analysis:** The study's analysis is limited to phonetic similarities and grapheme-level features as it excludes other linguistic and non-linguistic components that may cause consumer misunderstanding.
- **Qualitative Research Design:** The study employs a qualitative research design, which limits the analysis to qualitative descriptions and interpretations of the data, as opposed to quantitative measurements or statistical analyses.

Literature Review

This section presents an in-depth overview of the past research studies that have been done on the issue and the subject of the current research. This section helps the readers to understand the intention, setting and background of the research.

A brief overview to the basic principles of forensic linguistics is offered by McMenaminet, G. R. (2002), who emphasized particular on those components of linguistics that are closely related to forensic linguistics but are not directly related to it, such as stylistics, applied linguistics, and variations in linguistics. Gibbons (1999) defines forensic linguistics as the study of linguistic proofs and evidence (p. 164). This comprises word analysis, which examines discourse, sociolinguistics and lexical structure, and syntactic analysis, which examines grammatical structure, phonetics. This type of investigation used to identify writings whose authors are thought to be unknown or whose validity is questioned.

Although forensic linguistics emerged during 1950s and 1960s, Olson (2004) stated that its use did not begin to be made of it until 1963. Then, in 1968, Jan Svartvik reviewed a 1953 statement provided to the police. The first person who analyzed John Timothy's statement who was accused of killing his wife and child was John Svartvik. The term forensic linguistics was first coined based on this study. While forensic linguistics has progressed considerably over the last 20 years, Kniffka (1996) highlight that more work has to be done. He further said that the field of forensic linguistics is continues to grow in many countries, such as the Arab world, Australia, Italy, Australia and the UK.

Atif, Rashid, Arslan, Ullah, Amjad, and Haroon, (2024) conducted the anlaysis on phonetic forensic analysis of Imran khan’s speeches. The study compared the speeches produced by Imran khan and Artificial intelligence. The study reported differences in Pitch, volume, intensity and sound fragments.

According to the World Intellectual Property Organization training handbook (1993, p. 9), a trademark is any symbol that identifies out a particular company's products from those of its rivals.

Chapter, I., & Chapter, I. I. (2013, August). Trademark Law of the People's Republic of China. In Meeting of the Standing Committee of the Twelfth National People’s Congress on.

"Any signs, including words, graphs, letters, numbers, three-dimensional symbols, color combinations, sound or any combination thereof, that are capable of distinguishing the goods of a natural person, legal person or other organization from those of others may be applied for registration as trademarks," states the Trademark Law of the People's Republic of China (2013, p. 3).

Confusion about affiliation, connection, sponsorship, and source is only one of the many concerns of trademark and unfair competition law. A federal trademark infringement claim can arise from a use that "is likely to cause confusion, to cause mistake, or to deceive as the affiliation, connection or

association" of the junior user with the senior user; the Lanham Act's criteria for "confusion" are broad (15 U.S.C.; quoted in James T. Berger & R. Mark Halligan, 2012, p. 93).

In order to differentiate the goods and services of one enterprise from those of another, trademarks are defined in Section 2 (xxiv) of the Trade Marks Ordinance 2001 as follows: device, brand, heading, label, ticket, name of a natural or juristic person, abbreviation, signature, word, letter, numeral, figurative elements, color, sound, certification mark, collective mark, domain name, well-known mark, and service mark (Trade Marks Ordinance of 2001 section #2 and Deveci, 2003).

The concept of trademark traces back to the initial's days of society. Trademarks possess a history that originates around three thousand years ago (Chaudhary & Iqbal, n.d., p. 19). Some historical sources vary on when trademark protection originated; few argue that it in Greek and Roman time (Bently, Davis, & Ginsburg, n.d., p. 01), whereas other sources indicate to the British legal system (Schechter, 1999, p. 20), the latter offering more evidences that is stronger.

A trademark is the unique identification that sets apart a company's goods and services (manufacturer). According to Butters, trademarks are expressions, terms, and visuals that are used in businesses to distinguish widely accessible products and services from those of others (Gibbons & Teresa Turell, 2008).

In order to examined the ideology behind the language used, Nawaz and Hussain (2021) focused on conducting a forensic linguistic analysis of crime news report headlines in a Pakistani Newspaper. The main objective of the study is to understand how viewers perception are influenced by the language used in criminal news reporting. The study applied the Relevance Theory as theoretical framework to analyzed 10 criminal news report headlines from the Dawn newspaper using a qualitative research design and content analysis approach. The findings reveal the importance of language choices in media reporting and its influence on public interpretation of crime. The results also showed that the vocabulary used in criminal news report headlines, such as honor killing, robbery, and murders, changed viewers perception and impressions.

The research by Makangila, P. S., and Sabira, Y. (2020) investigated the case of Adidas and Abidas and forensically analyzed the likelihood of confusion about brand names. The main objective of this research is to illustrate how linguistic expertise could support legal judgements with respect to trademark disputes. The goal is to identify the factors that lead to audience confusion, investigating the data that is relevant to the visual similarities of the brand names and the function of linguist in settling disputes. The findings highlight the importance of linguistics analysis in such instances, since they show a significant degree of visual similarities between the two brand names.

In the case study of Doublemint and Doubiemlnt, Sadi-Makangila, P., & Sabira, Y. (2021) studied the use of forensic linguistic in the settling of trademark conflict. The aim of this study is to demonstrate how linguistics analysis is essential in trademark disputes and how forensic linguistic experts give helpful insight for legal decision making. The objective of this research is to provide evidence-based solutions for community trademark problems, and compare and contrast conflicting trademarks using scientific approaches. The results highlight how important linguistic expertise is when analyzing different aspects of trademarks, like brand names and logos, to assess their distinctiveness and uniqueness.

There were two primary reasons wherefore V. Guillén-Nieto (2011, p. 66–67) worked on the Respicort v. Respicur case. First one is that, he noticed the fact that there was no reference of any linguist's expert evidence during the eight years that the legal issue was pending in the relevant case file. Second, the extent of similarity between the two trademarks in dispute was the focus of very varied court outcomes. According to Altana Pharma AG, the Opposition Division, and the Second Board of Appeal of the OHIM, there was no likelihood of confusion since Respicort and Respicur had nothing identical. However, Mundipharma AG claimed that there was a substantial number of similarities between the two trademarks and that this would create confusion.in the end, the Court of First Instance found that there was a likelihood of confusion and decided that the two trademarks' similarities were equitable. Court decisions could not have been based on empirical results via through standard analytic linguistic methods; instead, they could only have been based on personal point of views, linguistic intuition, and common sense, as showed by the significant discrepancies in opinions regarding the likelihood of confusion in the Respicort v. Respicur case.

A comparative study between the markings of ALLERGIN vs. ALLERGAN and ALLERTAC vs. ALLERGAN was conducted by Sanderson (2007). In the next instance she observed that letter g vs t and n vs care the only orthographically distinction between ALLERGAN and ALLERTAC. Phonetically and morphologically (p. 141), both ALLERGAN and ALLERGIN are three-syllable words because "both words consist of the same root, allerg-, which occurs most commonly in words such as allergy, allergic, etc."

Linguistic analysis was conducted by Djonda and Mendoza (2022), which examined the traits and strength of the trademarks used by a number of buffet restaurants in the SM Mall of Asia in Manila. The research problem was the lack of linguistic researches on trademarks unrelated to legal disputes. The main objective of this research was to look at the language used in buffet restaurant trademarks and analyze how it indicate the validity of the trademarks. The methodology included analyzing the phonetics, morphology, lexicography, and semantics of the trademarks. The trademarks ranged in description from Buffet 101, which was considered descriptive, to Charaptor, Gen, and Yakimix, which were deemed fanciful, according to the findings. This implies that restaurant proprietors used inventive trademark selections.

Haroon, and Arslan, (2021) conducted the transivity analysis. For this purpose, UAM tool was used for Transitivity analysis includes different processes and through these items, we can put a stance on any context with verb to subject and these processes involve six kinds: material process, mental process, behavioral processes, relational process, verbal process and weathering. This paper investigates the relationship between linguistic structures and its meaning in the literary poem through ideational metafunction, based on Gerot-Wignell (1994) and Halliday's (1995) models of transitivity.

Ibrahim and Nambiar's (2013) investigation of the McDonald's v. McCurry trademark case from a legal, linguistic, and semiotic point of view focused on the usage of the prefix "Mc" in business names. The study examines the relationship between language and the law in instances of trademark infringement and raise questions on the effects of linguistic analysis on judicial decisions. The main objective of this study is to investigate that if language proficiency affects court rulings. Another aim of this research is to propose innovative research methodology that use social media platforms such as Facebook for data collection. A group of students research on Facebook as one method to collect feedback about the prefix "Mc." The findings highlight that respondents' pronunciations and meanings of "Mc" varied, highlighting the importance of linguistic considerations in trademark disputes.

Johannessen, C. M. (2008) analyzed the need for systematic and comparative observations to combat counterfeiting activities in newly industrialized nations through the investigation of visual trademarks. Utilizing Andreas Stötzner's signographic taxonomy, the study focuses on the role of the drawn stroke in trademark design and identifies measurable elements in trademarks. A detailed analysis of the two trademarks is the part of the methodology, using the taxonomy to differentiate between the Rolls Royce and PR brands based on their links with calligraphy and the human motor system. The result highlight that both the trademarks are quite similar as the Rolls Royce brand still has an association with calligraphy and the human body's motor system, but on the other hand the PR logo is the product of an abstract codified and stylized usage of comparable typographic components.

The research on the trademark conflict between IKEA and IKEMA was conducted by Syahroni, Numa, and Heniarti (2022) in order to access the degree of similarity between two trademarks and investigate brand dilution. Linguistic and psycholinguistic analysis is used to investigate the cognitive and textual aspects of the trademarks, this study also used public opinion surveys to analyze awareness among consumers. The linguistic elements of IKEMA and IKEA differ from one another, according to the findings, demonstrating some levels of distinctiveness. The psycholinguistic analysis also shows IKEA regional market presence and raises the potential concerns with brand recognization. The study provides a thorough understanding of the IKEA v. IKEMA case by offering relevant information on the nuances of trademark disputes and brand dilution.

In Lim's (2022) research, the main variables that contribute to trademark confusion are investigated in order to solve the research problem to comprehend the likelihood of confusion standard in trademark violation cases. A more simplified list of variables that judges should consider is also provided. The research used a case content analysis approach, the

study explored court judgments, highlight common features, and finds trends in the likelihood of confusion analysis. The findings indicate that judges often use coherence-based reasoning, which simplifies judgements by assuming the presence of all relevant aspects after an array of prerequisites are met. This might lead to uncertainty in how the legislation is interpreted. Additionally, the research highlights the ways in which AI systems might facilitate evaluations of likelihood of misunderstanding while also highlighting limitations such as biases and intricate coding, providing valuable insights for those working in the fields of intellectual property rights and trademark law.

Despite the plethora of investigations on forensic linguistics and trademarks, there is a significant research gap about the impact of grapheme-level components on customer confusion between similar names of Pakistani trademarks. While some researches have touched on the broader aspects of trademark confusion and linguistic analysis in trademark conflicts, there has not been focused research on the grapheme-level factors and their influence on consumer misunderstanding. Additionally, the review of the literature reveals a lack of understanding about the specific phonological and linguistic characteristics that cause consumer confusion, especially with respect to Pakistani trademarks. Further empirical investigation is required to thoroughly analyze the effect of phonetic similarity and grapheme-level features on consumer confusion among Pakistani trademarks, even if previous research has produced important insights into linguistic analysis and trademark disputes. This study aims to fill in these gaps and add to the body of knowledge currently available in the domains of forensic linguistics and trademark law by thoroughly examining phonetic similarities and grapheme-level features in Pakistani trademarks.

Theoretical Framework

Shuy's (2002) linguistic techniques were used as a theoretical framework in this research. Shuy's framework involves use of six language elements that are often used in trademark conflicts: lexicography, semantic meaning, phonetics, morphology, pragmatics, and syntax. Because of their apparent use in the trademarks under investigation, phonetics one of the six components were used in this study. The linguistic components are briefly described as follows.

To begin with, the study of speech sounds including their characteristics perception and production (Shuy, 2002). Shuy focuses on the use of phonetic and phonological elements like intonation, pauses, syllables, junction and stress in his research. Only phonetic characteristics, syllables, and stress were used in this investigation.

Lexicographical analysis is the study of vocabulary which concentrate on particular words as they appear in dictionaries. In trademark procedures, dictionaries are used to determine the definition, pronunciation, and etymology of phrases (Shuy, 2002).

Morphology is the study of word classes and grammatical structures (Shuy, 2002). Words or grammatical units (such the past tense marker -ed) are examples of morphemes, which are parts of the lexicon that are smaller than words. It follows that the word "unthoughtful" is supposed to be formed by combining the morphemes "un-," "thought," and "-ful." The root form "thought" is called a free morpheme since it may exist as a stand-alone word. On the other hand, "un-" and "-ful" are derivational affixes that are bound morphemes. The word cars have two morphemes: the bound morpheme, which is the plural marker "-s" in grammar, and the free morpheme, car.

According to Shuy (2002), semantics is the study of a word's meaning as it naturally occurs in dictionaries and other sources. In trademark conflicts, particular attention was also given to antonyms, hyponyms, synonyms, homophones, polysemy.

Research Methodology

This section deals with the methodology of this research article. Textual analysis is used to investigate the phonetic similarities and grapheme level features of Pakistani local trademarks which are the cause of confusion among consumers.

Research Design

The research design for this study is descriptive qualitative research which was employed to determine how Pakistani local trademarks phonetic similarities and grapheme level attributes which affect the consumers understanding and create confusion. This study provides a structured framework by assessing the degree of confusion caused by grapheme level features and phonetic similarity and provide guidelines for legal decision making in trademark.

Data Collection

Data was collected through qualitative method. The source of data collection was primary, i.e., data was collected directly from the online websites of the brands and from different social platform not from any secondary sources. The data was provided by the researcher exactly as it appeared without modification.

Population and Sampling

Pakistani local trademarks that are registered and actively utilized in the market are used as the population for this research. From a collection of registered trademarks, ten local trademarks from Pakistan were chosen for investigation. The random sampling method was used to collect the sample. random sampling was used in the data collection process in order to ensure that the selected trademarks cover a wide variety of products and sectors and provide a in depth comprehension of phonetic similarities and grapheme-level characteristics in Pakistani local trademarks The chosen trademarks were picked with the intention of determining the possibility of consumer misunderstanding based on their resemblance in appearance and pronunciation to other trademarks.

Results and Discussion

This section deals with the analysis of the trademarks.

1: Nestle

Graphemes	Nestle	Natural
1	N	n
2	E	a
3	s	t
4	t	u
5	l	r
6	e	a
7	-	l

Graphemes which are shared = 3

The impact of grapheme-level attributes on the confusion between Pakistani trademarks with visually identical names is significant. When comparing the terms "Nestle" and "Natural," we see that they share three identical graphemes: “n,” “e,” and “l.” The occurrence of these typical graphemes may result in confusion when customers quickly glance at the brand name. Customers may erroneously perceive the trademarks as more similar than they really are owing to the similarities in these graphemes. This could result in confusion regarding the origin or features of the products. This stresses the requirement of distinct grapheme patterns in trademark design to minimize consumer misunderstanding. By integrating discrete graphemes that diverge from those of related trademarks, firms may increase the visual distinctiveness of their brands, therefore lowering the likelihood of misunderstanding among consumers.

Phonetic similarities between Pakistani trademarks could contribute to confusion among buyers, especially when considering syllables and stress patterns. For instance, in comparing "Nestle" with "Natural," both have two syllables, with stress on the first syllable "NES-tle" and "NAT-ural". This proximity in stress patterns could lead to confusion when the trademarks are spoken aloud or heard in conversation. Additionally, both trademarks feature considerable phonetic similarities in their start and ending sounds "n" and "l" which may further lead to confusion, particularly if the trademarks are not physically presented and are merely heard. The shared graphemes "n," "e," and "l" further add to the phonetic likeness between the two brands, maybe leading to confusion when customers hear or speak them. Therefore, considering not only visual but also phonetic aspects, such as syllables and stress patterns, is crucial in developing trademarks to minimize misunderstanding and insure obvious brand identification.

2: Stone Ove

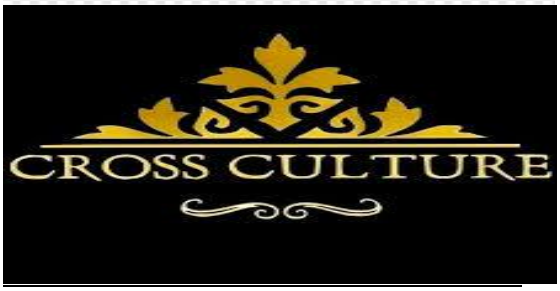
Graphemes	Hot Stone	Stone ove
1	h	-
2	o	-
3	T	-
4	s	S
5	T	T
6	o	O
7	n	N
8	e	E
9	-	O
10	-	V
11	-	E

Graphemes which are shared =5

Grapheme-level characteristics serve an essential part in the confusion between Pakistani local trademarks with apparently similar titles. “Hot Stone” and “Stone ove” shared 5 graphemes “s,” “t,” “o,” “n,” and “e”. This substantial overlap of graphemes could confuse customers, particularly if they swiftly scan the names. Viewers misinterpret or mistake one trademark for another because of the visual likeliness caused by the same graphemes. Customers can misunderstand "Hot Stone" with "Stone ove" since the characters “s,” “t,” “o,” “n,” and “e” are used interchangeably." If individuals are familiar with one brand but come across another, this is more likely to occur the confusion or they can relate these trademarks to one another. These similarities also impact the customer choices and recognition of brand.

Phonetic similarity among Pakistani local trademarks can give rise to customers misunderstanding, especially when stress structure and syllables patterns of the trademarks are same. Both the Pakistani trademarks “Hot Stone” and “Stone Ove” have two syllables. The stress on the first word such as in ‘Hot Stone’ in “Hot” and in ‘Stone Ove’ the stress is on “Stone”. The common phonemes ‘s,’ ‘t,’ ‘o,’ ‘n,’ and ‘e’ contribute to the confusion of customers because of the visual and phonetic similarities between the trademarks. Consumers misunderstood and believe that “Hot Stone” is a variant of or connected to “Stone Ove” when they hear and see similar sound patterns. Such confusion could impact consumer perceptions and brand identification.

3: Cross stitch



Graphemes	Cross Stitch	Cross culture
1	c	C
2	r	R
3	o	O
4	s	S
5	s	S
6	s	C
7	T	U
8	I	L

9	T	T
10	c	U
11	h	R
12	-	E

Graphemes which are shared = 6

When it comes to confusion between Pakistani trademarks that have visually similar names, the grapheme-level characteristics of trademarks have a significant role. "Cross Stitch" with "Cross Culture," for example, shows that six graphemes are identical: "C," "r," "o," "s," "s," and "t." This level of similarity cause confusion between customers especially when they only hear the brand names without any details. As both the trademark share the graphemes consumer can create the link between two brands in their mind and confuse one for the other. There are many other ways through which the business can be negatively impacted by this uncertainty such as sales and brand recognition. In the result loyalty and trust of the brand decline.

Phonetic similarities between Pakistani trademarks, such as "Cross Stitch" and "Cross Culture," also cause misunderstanding and buyers even get more confused as they sound similar. If the customers only hear the names without seeing them written this will also mislead the customers because of the similar pronunciation of these trademarks even if there is spelling difference.

"Cross Stitch" and "Cross Culture" both the trademarks have two syllables each such as ‘cr-oss sti-tch’ and ‘cr-oss and cul-ture’. These trademarks have also similar stress patterns: "Cross Stitch" stresses the first syllable of "Cross" and there is also the stress on the first syllable of "Stitch," whereas "Cross Culture" stress the first syllable of both "Cross" and "Culture." These phonetic similarities also play vital role in the confusion of buyers through which they associate the both the brands which will impact their decision to buy. While designing the trademarks firms must consider these factors to reduce the element of confusion.

4: Hunda

Graphemes	Hunda	Hundai
1	H	h
2	U	u
3	N	n
4	D	d
5	A	a
6	-	i

Graphemes which are shared = 5

Due to the grapheme level features Pakistani trademarks that have similar names visually such "Hunda" and "Hundai," where five out of six graphemes are identical. This will create confusion especially if they just are aware of the brand names without any detailed information.

For instance, the graphemes "h," "u," "n," "d," and "a," which are the same in both trademarks, make it easy for a customer to misinterpret the name "Hunda" for "Hundai" when they see it. There is a difference of only one grapheme “i” in the trademarks which distinguish the trademarks. The lack of transparency cause misunderstanding about the product and its characteristics. Confused customers are less likely to have an excellent encounter with the product which effect the brand loyalty. If company feels that someone is intentionally utilizing its trademarks which will led to legal issues and expensive court cases. Companies must pay close attention to the grapheme-level characteristics of their trademarks in order to prevent misunderstandings and possible harm to sales and brand reputation.

Pakistani trademarks such as "Hunda" and "Hundai" cause misunderstanding between customers because of the phonetic similarities, which give an impression of similar pronunciation even the spellings are different. The misinterpretation around "Hunda" and "Hundai" is increased by the similarity in syllable structures and stress patterns between the two trademarks.

Both "Hunda" and "Hundai" have two syllables each “Hun-da” and “Hun-dai”, with the first syllable being stressed in both cases ‘Hun-da’ and ‘Hun-dai’.

As the two trademarks sharing the same initial syllable "hun" and final vowel "a", customers confused when they listen the names of the trademarks "Hunda" and "Hundai" spoken. Customers' thinking and identity with the trademarks impacted by this this misunderstanding, which might negatively impact their decision to buy. Overall, there is a need for distinctive and easily recognizable brand names in the marketplace because of the phonetic similarities in syllable structure and stress patterns across Pakistani trademarks, which may significantly contribute to customer confusion.

5: Laam

Graphemes	Laam (clothing brand)	Lama (clothing brand)
1	l	L
2	a	A
3	a	M
4	m	A
Graphemes which are shared = 4		

Due to the grapheme-level similarities between Pakistani trademarks "Laam" and "Lama," which have visually similar names, customers may get confused. In this case, the two trademarks share the remaining four of the five graphemes and only differ in the last grapheme. The graphemes which are shared bby both brands are “l,” “a,” “a,” and “m”. Due to the significant degree of grapheme similarity, customers may get confused when they see the trademark names, especially if they are not paying close attention to the details. When customers glance quickly at the names "Laam" and "Lama," they may not notice the little variance in the last grapheme. This negligence might lead to customers mistaking one trademark for another, which could lead to illicit sales or brand misidentification. Similar graphemes may create the illusion of similarity amongst brands, which can affect their distinctiveness and identification.

This likelihood might have a variety of effects on the trademarks' sales and perception. Customers may experience disappointment if their expectations are not met if they buy a product on the mistaken belief that it is of a different brand. Moreover, brands may become less unique as a result of name similarity, which makes it harder for them to stand out in a crowded market. To mitigate these effects, companies must carefully assess the grapheme-level features of their trademarks to ensure that they are unique and easily recognized.

Phonetic similarities between Pakistani trademarks, such "Laam" and "Lama," might cause confusion among consumers, especially when considering syllable and stress patterns. Here, the two trademarks ("Laam" and "Lama") have the same syllable structure—that is, they both have one stressed syllable. Due to the accent pattern on the first syllable, both trademarks have phonetic similarities.

When consumers hear or read these trademarks, they could mispronounce them or misinterpret them because of similar phonetic characteristics and stress patterns. Because of the similarity in sound and stress, consumers can incorrectly think that the trademarks are more similar than they really are, which might lead to misunderstandings about the identities or goods supplied by the companies.

Moreover, the same phonetic features may influence brand memory and recognition. Due to their phonetic closeness, customers could mistakenly recall one brand while misremembering the other. Customers may unknowingly prefer one brand over another

based just on phonetic similarities, which might have an effect on their purchasing decisions and brand loyalty. The phonetic similarities between "Laam" and "Lama," especially their shared syllable structures and stress patterns, often mislead consumers, which has an impact on their behavior and perception of the brand.

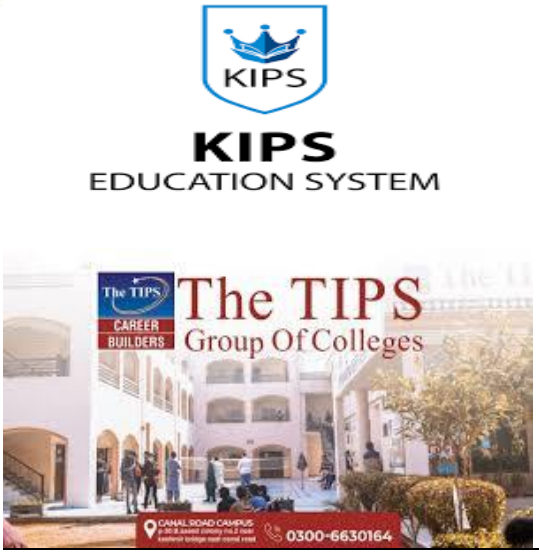
6: Rangrez

Grapheme	Rangrez (clothing brand)	Rangreza (clothing brand)
1	r	r
2	a	a
3	n	n
4	g	g
5	r	r
6	e	e
7	z	z
8	-	a
Graphemes which are shared = 7		

Trademarks from Pakistan, like “Rangrez” and “Rangreza” have grapheme-level features that had an enormous effect on consumer confusion. Out of the total eight graphemes, seven are shared by both trademarks: the initial "R," "a," "n," "g," "r," "e," and "z." among the both names there is only a difference of one letter “a” which is considered as very minimal difference. The two brand names appear visually similar due to these shared graphemes, which raises the risk of consumer confusion. Because these trademarks share graphemes, consumers may initially think they are the same or related. This similarity in appearance cause confusion about the particular product or brand being mentioned. Customers decisions to buy may be influenced by the cognitive link that is formed between the trademarks' similar looks.

Because "Rangrez" and "Rangreza" have similar phonemes, customers might get confused.as the word ‘rang-rez’ have two syllables as so the word ‘rang-reza’ also have two syllables. In the first word the “Rngrez” the stress is on the first syllable ‘Rang-rez’and in the second word “Rangreza” the stress is also on the first syllable ‘Rang-reza’. Since the first syllable is stressed in both trademarks, they are bisyllabic. Because of the identical graphemes and similar pronunciation of the first few syllables, consumers may mistakenly identify the two brands. When consumers hear or see "Rangreza," they may automatically assume that there is a connection between the two apparel brands and associate it with the popular "Rangrez" brand. The likelihood of confusion caused by similarity in brand names is emphasized by the similarity in phonetics and overlapping graphemes that exacerbate this confusion.

7: Kips



Graphemes	Kips (college)	Tips (college)
1	k	t
2	i	i
3	p	p
4	s	s
Graphemes which are shared = 3		

The grapheme-level features of Pakistani trademarks, such as "Kips" and "Tips," are mostly to blame for consumer confusion, especially when there are visually similar names involved. In this instance, the three graphemes “i,” “p” and “s” that are shared by the two trademarks When customers first glance at these trademark names, they could get confused since they have the same graphemes, which suggest that the names are similar or identical. There is only a difference between initial graphemes “k” and “t”.

Specifically, the frequent graphemes “i,” “p” and “s”are important contributors to this confusion. Initially, these graphemes have a similar look as they represent the essential elements of both trademarks. Customers who are unfamiliar with either trademark or who are quickly scanning the options may easily confuse one for the other because of these identical graphemes. This uncertainty might have a variety of negative impacts, such as a decline in sales and brand recognition.

Trademark misunderstanding may cause both businesses to miss out on sales opportunities. Customers who want to engage with one brand may end up doing so with the other due to the visual similarity between their names. Customers may associate positive or negative experiences with the wrong brand as a result of this misunderstanding, which might damage the reputation and fidelity of the whole brand. This type of confusion over time may prompt one or both companies to consider rebranding or implementing strategies to more effectively differentiate themselves in the market.

Phonetic similarities between Pakistani trademarks, like "Kips" and "Tips," may cause confusion among consumers, especially when the trademarks are physically similar and provide similar services, like institutions. There is a chance of mispronunciation and misunderstanding since the two trademarks in this case have similar phonetic structures.

"Kips" and "Tips" are monosyllabic words that emphasize the initial consonant note similarly. Because to their close syllable counts and stress patterns, the trademarks sound identical when said aloud, which furthers the confusion.

When consumers hear these trademarks spoken aloud, they can believe that the two colleges are one and the same due to their phonetic similarities. People could choose one college over the other erroneously thinking it is the same institution since the names of the two universities seem similar. Consumer decision-making may be impacted by this misperception. Furthermore, the phonetic resemblance could influence brand recognition and memory. Customers may find it challenging to distinguish between the two brands when discussing or recommending them to others, which might lead to misunderstandings and miscommunications. All things considered, the phonetic similarities between these trademarks may cause confusion for consumers, which might have an impact on how they see and interact with the businesses.

8: Chunk n Cheeze

Graphemes	Chunk n Cheeze	Cheeze n Crunch
1	c	-
2	h	-
3	u	-
4	n	-
5	k	-
6	N	-
7	C	c
8	H	h
9	E	e
10	E	e
11	Z	z
12	E	e
13	-	n
14	-	c
15	-	r
16	-	u
17	-	n
18	-	c
19	-	h
Graphemes which are shared = 7		

The grapheme-level features of "Chunk n Cheeze" and "Cheeze n Crunch," which are visually similar trademarks from Pakistan, are crucial in avoiding confusion. Here, the seven graphemes that are shared by the two trademarks are ‘c,’ ‘h,’ ‘e,’ ‘e,’ ‘z,’ ‘e’ and ‘n’. The names seem almost similar at first glance due to these shared graphemes, confusing customers who are only focusing on the trademarks. This misunderstanding might have a big effect on sales and brand recognition. Customers may mistake "Chunk n Cheeze" and "Cheeze n Crunch" for the same product or brand, which might hurt sales of one of the trademarks. Additionally, customers can mistakenly flip between the two brands since they can't tell them apart, which might affect their brand loyalty.

Comparable grapheme-level characteristics may also lead to misunderstandings and legal issues, such as claims of trademark infringement. If one trademark owner believes that another is intentionally creating confusion by adopting similar grapheme patterns, a legal dispute may result, further harming the companies' reputations and earnings. Therefore, companies need to consider the grapheme-level features of their trademarks to avoid misunderstandings and legal issues.

Phonetic similarities between Pakistani trademarks, such "Chunk n Cheeze" and "Cheeze n Crunch," might cause confusion among consumers, particularly when it comes to pronunciation and recognition. Given the similarity in stress patterns and syllables between the two trademarks in this case, there can be misunderstandings. In the first trademark, "Chunk n Cheeze," the first syllable "Chunk n cheeze" is stressed more than the other. Similar to this, the first syllable of the second trademark, "Cheeze n Crunch," is stressed "Cheeze n crunch". Due to similar stress patterns and syllable structures, the trademarks sound identical when spoken, which raises the risk of misunderstanding among consumers, especially when they are heard rather than read.

Additionally, even if these phonemes are pronounced the same in both trademarks, there is additional confusion due to the shared phonemes in the grapheme-level comparison, such as ‘c,’ ‘h,’ ‘e,’ ‘e,’ ‘z,’ ‘e’ and ‘n’. Due to phonetic similarities, customers may believe that two trademarks are related to the same product or brand, which might influence their purchasing decisions and brand loyalty. All things considered, the phonetic similarities across Pakistani trademarks may make it difficult for consumers to differentiate between companies, perhaps leading to mispronunciation and identification problems.

9: University of the Punjab

Grapheme	University of the Punjab	University of Central Punjab
1	u	u
2	n	n
3	i	i
4	v	v
5	e	e
6	r	r
7	s	s
8	t	t
9	y	y
10	o	o
11	f	f
12	t	-
13	h	-
14	e	-
15	-	c
16	-	e
17	-	n
18	-	t
19	-	r
20	-	a
21	-	l
22	p	p
23	u	u

24	n	n
25	j	j
26	a	a
27	b	b

Grapheme which are shared = 17

Because of their resemblance at the grapheme level, the 17 shared graphemes between “University of the Punjab” and “University of Central Punjab” may have a significant impact on consumer misunderstanding. Consumers may confuse one university for another because of similar graphemes in their names, such as ‘u,’ ‘n,’ ‘i,’ ‘v,’ ‘e,’ ‘r,’ ‘s,’ ‘i,’ ‘t,’ ‘y,’ ‘o,’ ‘f,’ ‘p,’ ‘u,’ ‘n,’ ‘j,’ ‘a,’ and ‘b’. This is especially true if they are not acquainted with the specific universities. This condition of confusion might affect a number of aspects, such as the enrollment rates, the likelihood of receiving financial aid, and the way the public views both universities. Unintentionally attributing characteristics of one school to another may affect students' and stakeholders' choices and viewpoints. Name similarity may also result in legal issues and administrative complexities, such as trademark disputes or instances of misidentification. Therefore, features at the grapheme level greatly influence customer perception and decision-making, highlighting the need of clear and distinctive branding tactics to avoid confusion and maintain each company's unique identity and reputation.

Customers may get confused due to phonetic similarities between "University of the Punjab" and "University of Central Punjab," especially when it comes to pronunciation. Similar syllable structures and stress patterns between the two names may cause mispronunciation and, as a result, misunderstanding. The first syllable in "University of the Punjab" is stressed more than in the first syllable and have seven syllables U-ni-ver-si-ty of the Pun-jab in "University of Central Punjab," which likewise has seven syllables with the same main emphasis U-ni-ver-si-ty of Cen-tral Pun-jab.

10: Care

Grapheme	Care	Care x
1	C	c
2	A	a
3	R	r
4	E	e
5	-	x

Grapheme which are shared = 4

The similarity in graphemes between “Care” and “Care x” may cause customers to get confused, especially when attempting to visually distinguish the trademarks. The names seem almost similar at first sight due to their four common graphemes 'c,' 'a,' 'r,' and 'e', which might lead to consumers confusing one for the other. Customers may find it difficult to distinguish between the two brands or may identify certain characteristics of one with the other, which might have an effect on sales and brand awareness. The 'x' that separates "Care x" from other words may not have a major impact on pronunciation, but it provides a distinctive visual aspect that makes the separation more difficult to make. This highlights how crucial it is to have distinctive branding and unambiguous visual signals in order to prevent misunderstanding and preserve a strong brand identity.

Given their similar phonemes, "Care" and "Care x" may cause misunderstanding among customers, particularly when syllable and stress patterns are taken into account. The first consonant sound 'c' in both names is stressed, and both names are composed of a single syllable. The syllable structure and stress pattern of the trademarks are close enough to make them sound almost same when uttered out loud. The difference may become even more hazy since the 'x' in "Care x" may not substantially change the pronunciation or stress pattern. Customers may mistake one brand for the other due to this phonetic similarity, which may affect their choice of products and level of brand loyalty. It emphasizes how crucial unique phonetic elements are to branding in order to guarantee distinction and prevent customer misunderstanding.

Conclusion

This study devolved in to the complexities of details related to the likelihood of misunderstanding among local trademarks in Pakistan, with the emphasis on the effects of grapheme-level characteristics and phonetics resemblances. The analysis of six trademark pairs demonstrate that these linguistic components have a critical role in increasing customers perplexity.

It has been showed that confusing aspects, particularly shared graphemes, have an essential impact at the grapheme level. Trademarks like “Hunda” and “Hundai”, for instance, were apparently similar to one another in all but one grapheme, which cause consumers to mistake one

brand for another. Similarly, it has been illustrated that phonetic similarity, including syllable structure and stress patterns, increases the risk of confusion. Brands such as "Laam and Lama" have similar phonetic structure, though selling very different items. The similarity in stress patterns and syllable structures could encourage people to believe that the two brands are associated with each other.

In order to develop and readily recognizable trademarks in the future, trademark owners and designers has to concentrate on particularly on specific linguistic characteristics. In order to ensure that the chosen name is both phonetically and physically distinctive during the trademark development procedure, this could entail doing extensive linguistic research. By doing this, trademark owners secure their brand identification and minimize the risk of the likelihood of consumer misinterpretation. It also be required to develop consumer education programs on these language features and how they impact trademark identification. By being aware of the importance of phonetic similarity and grapheme-level features, people avoid confusion between similar-looking or sounding trademarks and make more informed purchasing decisions.

All things considered, this study offers new avenues for research on the linguistic features of trademarks and how they impact customers perspectives. By doing additional research in these areas, researchers may contribute to the development of more effective consumer protection and trademark design strategies.

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