

Word Formation Patterns of Technological Neologisms in English Digital Media: A Morphological Analysis Based on O'Grady and Guzman

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ABSTRACT

This study examines the formation of neologisms in English-language digital media, focusing on the technology news platforms TechCrunch and Wired. Using O'Grady & Guzman (1996) morphological framework, this study identifies five main word formation processes: compounding, word blending, derivation, acronyms, and conversion. These processes are analyzed qualitatively through 10 neologisms extracted from both media. TechCrunch and Wired were selected due to their central role in documenting and popularizing technological innovations and terminology. The findings show that derivation and compounding are the most dominant patterns, indicating that morphological creativity in a technology-driven context is highly dependent on simplicity and clarity. These results highlight the dynamic relationship between linguistic innovation and technological development, suggesting that neologisms not only reflect lexical changes but also serve as tools to accommodate emerging digital realities.

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ARTICLE INFO

Keywords:

Digital media;
Morphology;
Neologism;
Technology;
Word formation

Article History:

Received: 5 June 2025

Revised: 18 June 2025

Accepted: 12 July 2025

Published: 13 July 2025

How to Cite in APA Style:

Ahmadi, Y., Syamsurijjal, & Syahid, A. (2025). Word Formation Patterns of Technological Neologisms in English Digital Media: A Morphological Analysis Based on O'Grady and Guzman. *Lexeme : Journal of Linguistics and Applied Linguistics*, 7(2), 365–376.
<https://doi.org/10.32493/ljal.v7i2.49715>

INTRODUCTION

Language is an aspect that is very dependent on the development of time, the development of technology and the entry of new cultures that occur. Language change is a natural and normal thing to happen. In fact, Harya (2016) stated that language can change and develop by itself slowly. So, the more rapid the development of technology and time, the more language develops which has no limit. Perelman (1996) argues that language evolves with the emergence of many new words commonly used in everyday communication.

The development of information and communication technology in the last few decades has changed the way people interact and communicate. Through communication is the most effective way to express thoughts and feelings. Communication and technology are a way to create a new culture (Pratama et al., 2020). In addition, language continues to evolve making every aspect of human life that can reflect the style of speech about themselves and the environment around them.

One of the contributions of technological development to language change is the emergence

of new word formation or also known as neologism (Pratama et al., 2020). Neologism can be defined as “a newly created lexical unit or a lexical unit that acquires a new meaning” (Newmark, 1988:140). Neologisms may still be unfamiliar to some people. However, neologisms are often popular on the internet, social media or words that often come out of the mouths of young people now. The challenge of neologisms as a new culture may take decades to be understood by cultural acceptance and it takes a big role to establish a truly significant position to make people understand about it. Neologisms underline the interesting study of uncovering the connection of meaning with linguistic class in some cases. Neologisms also reveal that elements that can make language alive and dynamic rather than dead (Pratama et al., 2020). From all of the above, with the development of technology, communication, various inventions and innovations, a number of words that appear in English make a language phenomenon that must be recognized. Most of these words are still unfamiliar to many people. Moreover, from the internet world used in daily life, hundreds of words and terms have been coined and it is actually very interesting to know the neologism process of this new culture.

TechCrunch and Wired are English digital news platforms that have created many new words and terms because they focus on news about information technology development issues and experience the impact of neologisms by transforming the course of network era culture. TechCrunch and Wired were selected because they are both leading global technology news platforms that actively cover innovation, start-ups, and digital transformation. These sources were chosen because they are published often, many people from other countries read them, and they often introduce new technology words. According to Shahlo & Ravshanova (2023) the origins and spread of neologisms are in many ways linked to the development of social networks. Major issues such as this should be recognized and should be aware of the new cultural phenomena that have occurred, people should understand more about the transformation of these new words and the meaning of the actual words. Some try to explain the reasons that allow neologisms to occur in language systems. Baldi & Aitchison (1983:89) mention that neologisms can occur for three reasons, foreign influence, fashion, and social need. Suartini (2019:55) also argues that the phenomenon of neologism can occur due to factors of economic, technological, political, linguistic, and cultural development or an event that has hit the world community. So, the process of word formation (neologism) occurs when a new lexicon can be adopted by utilizing an existing lexicon or borrowing a lexicon from another language (Satriani et al., 2021).

Morphology in general is a study that focuses on word formation, the process of word formation is formed or transformed from merging, summarizing, borrowing words from other languages, thus forming new words and meanings (Bauer, 1989:33-34). Word formation is arguably included in the study of Morphology. According to O’Grady & Guzman. (1996) the term Morphology is the study of word formation and its analysis involving the word class system and the rules in it.

This research confirms that the phenomenon of neologisms is a very relevant and important issue to be studied, especially in the context of today's rapid technological and communication developments. Neologisms not only reflect the dynamics of a living language, but also illustrate how people, especially the younger generation, adapt to cultural and technological changes through language. By understanding the formation process of neologisms, we can identify new patterns in language use that can enrich our vocabulary and expand our understanding of social interaction. This research is crucial because it can provide deeper insights into how language functions as a dynamic communication tool that is responsive to changing times, as well as help people to better understand and accept new terms that appear in everyday life (Triarisanti & Purnaman, 2024). Although Harya (2016) and Perelman (1996) emphasize that linguistic change is inevitable, recent studies such as Crystal (2019) and Tagliamonte (2017) highlight how digital media platforms not only accelerate lexical innovation but also alter the conditions of morphological productivity. This study situates itself within this contemporary discourse.

Based on the description of the problems above, this study aims to analyse the word

formation process of neologisms in English technology digital (TechCrunch and Wired). This analysis involves two main frameworks: O’Grady & Guzman (1996) theory of word formation (including processes such as compounding, blending, derivation, acronyms, and conversion).

REVIEW OF LITERATURE

Several previous studies have examined neologisms from various linguistic perspectives, which provide valuable insights for this study. Shahlee (2021) focused on morphological processes in social media neologisms, identifying acronyms as the most dominant form, while Satriani (2021) explored neologisms in Indonesian using a morphosemantic approach, emphasizing their role in vocabulary enrichment. Wahyuni (2019) compared word formation processes in English and Javanese, highlighting the morphological richness of English. Sulistiyarini & Masrukhi (2024) analyzed scientific and technological neologisms, finding fusion, affixation, and abbreviation as the most common patterns. Meanwhile, Syach & Ridwan (2021) studied neologisms in German advertisements, and Pratama et al. (2020) revealed that acronyms and blending are prominent in social networking jargon. Satriani et al. (2021) categorized Indonesian social media neologisms into morphosemantic, morphological, semantic, and borrowing types. These studies, although varied in language and focus, collectively underscore the importance of word formation and semantic shifts in understanding neologisms, which supports the relevance of the morphosemantic approach in this study to technological terms in English-language digital media.

METHOD

This study uses a qualitative approach with the aim to reveal the process of neologism formation as well as its social and cultural impacts in technology online news media, namely TechCrunch and Wired. Data was collected from TechCrunch and Wired, two leading global technology news platforms that actively cover innovation, startups, and digital transformation. These sources were selected for their high publication frequency, international readership, and strong track record in introducing cutting-edge technology vocabulary. Data collection was carried out by (1) identifying and recording new terms in articles related to technological developments, which were then (2) analyzed morphology word formation by (O’Grady & Guzman. 1996). Data analysis followed the stages of (1) data reduction, (2) categorization, (3) pattern exploration, and (4) interpretation of meaning according to using oxford and columbia dictionaries, then with qualitative methods from (Moleong 2014). This research identifies patterns of word formation such as compounding: The combination of two or more words (e.g., "smartphone"), acronyms: Creating words from the initial letters of phrases (e.g., "SaaS" from "Software as a Service"), derivation: The addition of affixes to base words (e.g., "stream" → "streaming"), blending: The merging of parts from two words (e.g., "webinar" from "web" + "seminar"), and conversion: process in which a word changes class without a change in form (e.g., *email* (noun) becomes *to email* (verb)) (O’Grady & Guzman. 1996).

FINDINGS AND DISCUSSION

From a total of 10 neologisms data found and analyzed in TechCrunch & Wired, 5 word formation processes were found, namely blending, compounding, conversion, derivation, acronymy and conversion. The analysis results are explained below.

Table 1. List of neologisms found on TechCrunch & wired

No	Neologism	Word formation
1.	<i>Smartphone</i>	Compounding (<i>Smart+Phone</i>)
2.	<i>Blockchain</i>	Compounding

<i>(Block +Chain)</i>		
3.	<i>Cryptocurrency</i>	Compounding <i>(crypto+currency)</i>
4.	<i>Webinar</i>	Blending <i>(Web + Seminar)</i>
5.	<i>Vlog</i>	Blending <i>(video+blog)</i>
6.	<i>Streamer</i>	Derivation of Suffixation <i>(stream + -er)</i>
7.	<i>e-learning</i>	Derivation of Affixation <i>(e- +learning)</i>
8.	<i>Debugger</i>	Derivation of Suffixation <i>(Debug + -er)</i>
9.	<i>AI</i>	Acronymy
10.	<i>to google</i>	Conversion

The analysis of neologism in Table 1 reveals that Derivation and Compounding are the most prominent word formation processes. Derivation is often the primary means of expanding the vocabulary of a language in response to specific innovations in a field (Plag, 2003). Derivation, exemplified by words like *debugger* and *streamer*, showcases suffixes like *-er* to create new digital terms. Compounding, as seen in term like *smartphone* and *blockchain*, the study indicates a growing diversity in lexical forms and functions encompassing agentive nouns and transformed verbs, suggesting that neologism creation considers both linguistic structure and meaning in the digital communication context. Blending tends to encapsulate new concepts from intersecting domains (web + seminar), while derivation structures identity roles (streamer) driven by user interaction with the medium (Bauer, 1989).

Word Formation

The following are examples of each of the previously discussed word formation processes, some word formation processes such as compounding, blending, derivation, acronyms, and conversion found on TechCrunch & Wired.

Compounding

The process of combining two or more words into a new word. O’Grady & Guzman (1996) define compounding as a lexical category (verb, noun, adjective, verb, preposition) combining two existing words to form a larger lexical item.

Data 1. *smartphone*

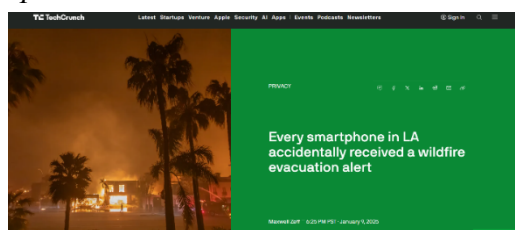


Figure 1. *Every smartphone in LA accidentally received a wildfire evacuation alert*

This title shows how neologisms such as *smartphone* have experienced a shift in function in the social meaning field. Morphologically, the word is formed through a compounding process and is classified as an *endocentric compound noun*.

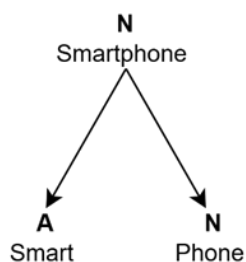


Figure 2. Structure Morphologist (Tree Diagram of compounding analysis)

The word *smartphone* is morphologically formed through a process of compounding, which involves two free morphemes, namely *smart* and *phone*. According to O’Grady & Guzman (1996), this process creates a new lexical unit in which the rightmost element *phone* serves as the head, which determines the word class and core meaning. As supported by Bauer (1989) and Katamba (1993), compound word formation, particularly adjective-noun combinations, is a common and productive strategy in English. Technology tends to form hybrid terms to reflect the integration of concepts. For example, this word combines a device (phone) with its quality (smart), thus representing a new device that contains old functions but in a more sophisticated form.

Data 2. *Blockchain*

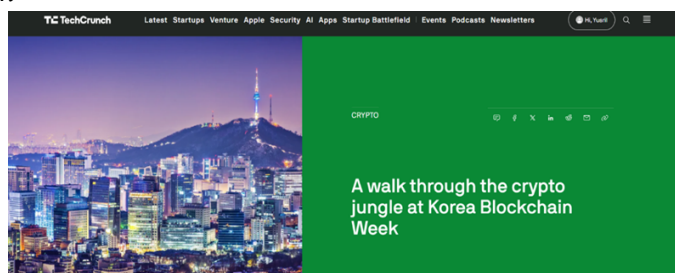


Figure 3. *Blockchain* (A walk through the crypto jungle ata korea Blockchain week)

The word *blockchain* is used as part of the name of the event *Korea Blockchain Week*, showing a shift in meaning from just a technical term to a symbol of industry and community. Originally, *blockchain* (a combination of the morphemes *block* and *chain*) referred to decentralised ledger technology, but in this context, the word has widened its meaning to encompass the entire crypto ecosystem-including business, regulatory, and cultural aspects as reflected by the phrase *crypto jungle* which implies the complexity and dynamism of the industry.

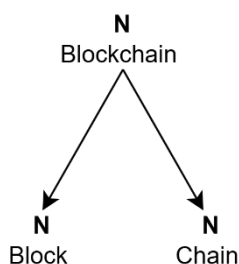


Figure 4. Structure Morphologist (*Tree Diagram of compounding analysis*)

In English, the head of a compound word is usually the rightmost element, and determines the syntactic category of the whole word (Bauer, 1989a). The term "*blockchain*" is a combination of two nouns, "*block*" and "*chain*." The noun "*chain*" is defined as the "*head*," which is the part that determines the noun's meaning. This results in the compound becoming endocentric, meaning that its composition continues to reflect the significance of one of its constituent elements (*chain* → *series of data*).

Data 3. *Cryptocurrency*



Figure 5. *Can You Get Rich Using a Raspberry Pi to Mine Cryptocurrency?*

The title "*Can You Get Rich Using a Raspberry Pi to Mine Cryptocurrency?*" exemplifies how digital media has the capacity to generate new discourse through the integration of neologisms and the expansion of existing concepts within the scientific realm.

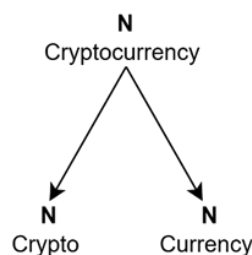


Figure 6. Structure Morphologist (*Tree Diagram of compounding analysis*)

The structure can be analyzed as an endocentric compound, in which the overall meaning of the word still refers to the meaning of the head, that is, currency. The term *cryptocurrency* is defined as "*a digital medium of exchange that utilizes encryption technology*." This definition is derived from both the structural composition of the term and the contextual nuances within the domain of digital financial technology.

Blending

O'Grady & Guzman (1996) blending is the wording of the non-morphic parts of two existing items, usually the first part of one item and the final part of the other.

Data 4. *Webinar*

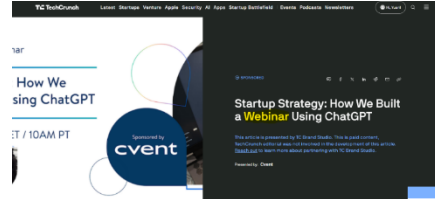


Figure 7. Data 6 (*Startup strategy: How We Built a Webinar Using ChatGPT*)

Web - Seminar < Webinar

(internet network) - (scientific discussion) < (Online-based seminar)

The word ‘*webinar*’ is formed through a *blending* process, which is a combination of the words ‘*web*’ and ‘*seminar*’. according to the oxford dictionary the word ‘*web*’ means internet network and the word ‘*seminar*’ means scientific discussion. In this news, the use of the word *webinar* indicates a modern and innovative method of information delivery. Webinars are often used for education or promotion, and in the context of startups, it can be an effective tool to reach a wider audience, share knowledge, and promote products or services.

Data 5. *Vlog*

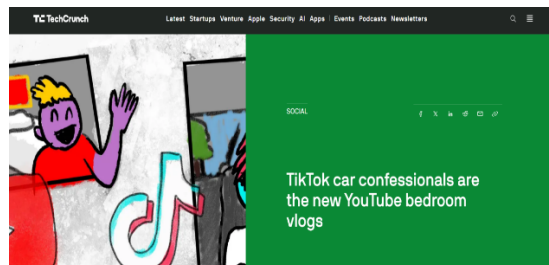


Figure 8. *TikTok car confessionals are the new YouTube bedroom vlogs*

Table 2. Structural Breakdown of Blending process

Component	Source Word	Retained Part
Vi-	Video	First syllable
-log	Blog	Final syllable

According to O’Grady & Guzman (1996), blending is a word-formation process that creates a new lexical item by combining parts of two existing words. The blending process usually involves taking the first segment of one word and the last segment of another word, often omitting some syllables or letters (Plag, 2003). The result is *vlog*, which combines the concept of visual (video-based) content with the personal, journal-like structure of a blog. Thus, *vlog* refers to a personal record or commentary presented in video format and shared online.

Derivation

Derivation is the process of forming a new word by adding an affix (prefix or suffix) to the base word (O’Grady & Guzman., 1996).

Data 6. *Streamer*

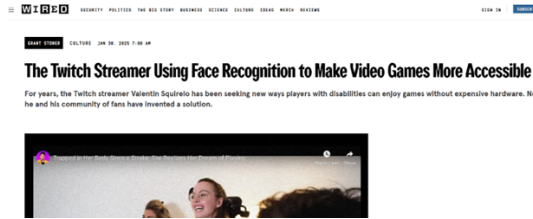


Figure 9. The Twitch *Streamer* Using face Recognition to Make Video Game More Accessible

In the headline, the word *streamer* is used as a noun and functions as an agent. This word refers specifically to individuals who live stream on the digital platform Twitch. Thus, *streamer* here not only denotes a profession, but also a social and digital identity.

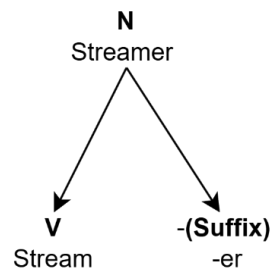


Figure 10. Structure Morphologist (tree diagram of derivation analysis)

stream + *-er* → *streamer* = “someone who does the streaming process”

The tree diagram shows that *streamer* is formed from the basic unit in the form of the verb *stream*, which is then given the suffix *-er* to form a new unit in the category of noun. According to O’Grady & Guzman (1996), the suffix *-er* belongs to the productive *derivational affix* category, and functions to form an *agentive noun*, which is a noun that refers to the action of the original verb. Thus, *streamer* can be defined as “someone who streams.”

Data 7. *e-learning*

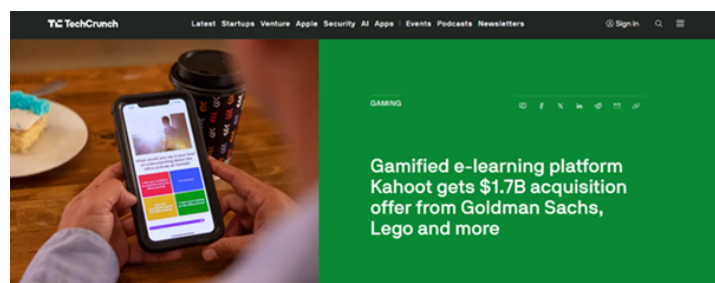


Figure 11. Gamified *e-learning* platform Kahoot gets \$1.7B acquisition offer from Goldman Sachs, Lego and more

The word *e-learning* is used in the context of the digital economy which not only indicates the process of electronic learning, but also as the identity of technology-based products that have a selling value in the global market. This usage reflects how neologisms can experience shifts in function and meaning in media discourse.

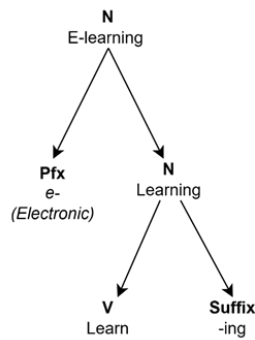


Figure 12. Structure Morphologist (*tree diagram of derivation analysis*)

The word *e-learning* is a neologism formed through a multilevel derivation process involving the sequential addition of two derived morphemes. First, the verb *learn* is transformed into the deverbal noun *learning* by adding the suffix *-ing*, which indicates activity or process (O’Grady & Guzman 1996). Furthermore, the prefix *e-* a shortened form of *electronic* was added to *learning* without changing its grammatical category, but indicating that the activity occurs digitally. As Plag (2003) notes, such category-preserving prefixes significantly affect meaning while preserving the original word class. Thus, *e-learning* remains a noun but functions as a new lexical unit that specifically refers to technology-mediated digital education.

Data 8. *Debugger*

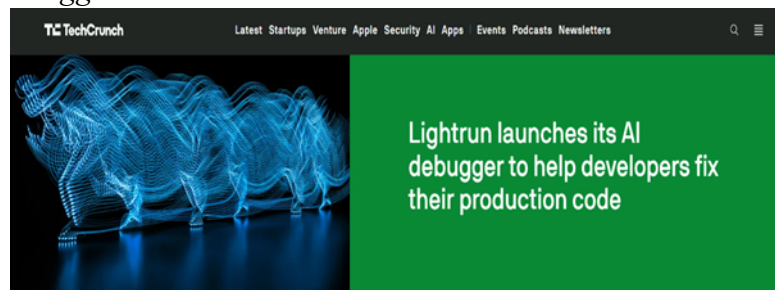


Figure 13. *Lightrun launches its AI debugger to help developers fix their production code*

In the sentence, *debugger* functions as a noun that acts as the direct object of the verb “*launches*”. *Lightrun* is the subject of the sentence, as the name of the company, and the *debugger* is a specific software product. The phrase “*AI debugger*” appears to be a noun phrase. Perspectively, “*AI*” is a premodifier that indicates that *debugger* is a noun that is equipped/supported by *AI*.

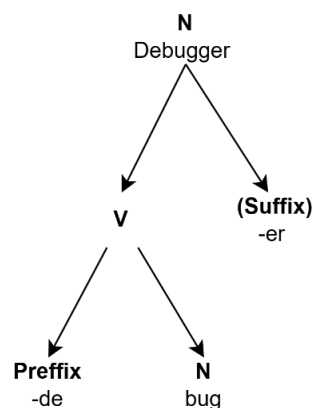


Figure 14. Structure Morphologist (*tree diagram of derivation analysis*)

The word *debugger* is morphologically formed through a two-stage derivation process involving prefixation and suffixation. Initially, the base noun *bug*, which originally means ‘insect’, undergoes semantic expansion in the technological context to refer to a ‘*system or program error*’. The prefix *de-*, meaning ‘to remove’, is added to form the verb *debug*, meaning ‘*to remove errors*’. In the second stage, the suffix *-er* is attached to *debug*, creating the agentive noun *debugger*, which refers to a person or tool that performs the debugging process. This formation reflects both grammatical transformation and semantic innovation within technological discourse.

Acronyms

Acronymy is the process of forming new words from the initial letters of words that form phrases (O’Grady & Guzman 1996).

Data 9. *AI* (Artificial Intelligence)

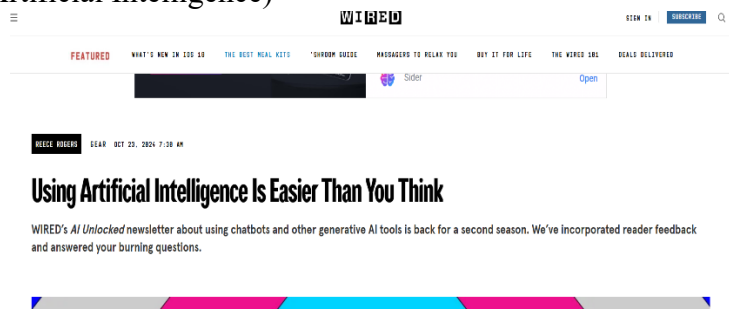


Figure 15. Using Artificial Intelligence is Easier Than You Think

This type of word formation is especially common in names of organisations and in military and scientific terminology. This is something that a lot of people have in common. The use of the word *AI* acts as an acronym for the phrase *Artificial Intelligence*. In this context, *AI* is not only used as a technology label, but also as a representation of artificial intelligence systems that have become an integral part of everyday life, especially in the form of chatbots and generative tools. Morphologically, *AI* is formed through the process of acronymy, which takes the initial letters of the words *Artificial* and *Intelligence*. According to Plag (2003), this acronym form is part of an economical and highly productive word formation process, especially in scientific and technological languages. This form retains the lexical function of the original word, which is as a noun.

Conversion

O’Grady & Guzman (1996) Conversion is a process in which a word changes class without a change in form. This often happens when a noun is converted into a verb, or vice versa.

Data 10. *to google*

Google (noun) → to google (verb)

The word *to google* is an example of a neologism formed through the process of conversion (also known as zero-derivation)(O’Grady & Guzman. 1996), which is a change in word class without a change in morphological form. In this case, the proper *noun Google*, which originally refers to the name of a technology company or search engine, changes its function to a transitive verb (*to google*), which means *to search for information through the Google search engine*. According to O’Grady & Guzman. (1996), conversion is one of the most productive word

formation processes in modern English, as it allows the creation of new word classes without the addition of morphemes. To google is the result of a noun to verb conversion, and is now widely used in everyday communication. For example: “*I googled the recipe this morning.*”

CONCLUSIONS

Based on the analysis of neologism formation processes in English digital media such as *TechCrunch* and *Wired*, it can be concluded that morphology plays an important role in the creation of new terms related to technological developments. Commonly found word formation processes include *blending*, *compounding*, *derivation*, *acronym*, and *conversion*, which show the adaptation of language to innovation and the dynamics of digital culture. This phenomenon is significantly influenced by social, technological and cultural factors that encourage the emergence of new vocabulary as a manifestation of shifting meanings and communication developments in the digital era.

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